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Parliamentary Rules and Usages.

The following are the complete rules, in a plain and compact form, for conducting a public meeting.

Quorum.— A quorum is a sufficient number of the members of an association to legally transact business. Unless a quorum is present no business is in order, except to adjourn. A majority of the members constitutes a natural quorum, but the by-laws of the association may prescribe a smaller number.

The Chairman.— It is the duty of the chairman to open the meeting at the time fixed upon, by taking the chair, calling the house to order, to announce the business before the house in the order in which it is to be acted upon; to receive and submit all motions; to put to vote all questions which are regularly moved, or which necessarily arise in the course of proceedings, and to announce the result; to restrain every one, when engaged in debate, within the rules of order; to enforce the observance of order and decorum; to appoint committees; to authenticate by his signature, when necessary, all the acts and proceedings of the house, and generally to declare its will.

He may speak to points of order in preference to others; shall decide all questions of order, and if the house is evenly divided he may give the casting vote, in doing which he may, if he pleases, give his reasons.

The Clerk.— It is the duty of the clerk or secretary to keep correct minutes of the proceedings of the house; to read all papers when ordered, and for this purpose he should always rise; to call the roll, and state the answer when a vote is taken by yeas and nays; to have the custody of all papers and documents, and to authenticate the acts and proceedings of the house by his signature.

Committees.— Standing committees sit permanently; special committees perform only some particular duty, when they are discharged. The person first-named is usually regarded as chairman, but this is only a matter of courtesy; every committee has a right to select its own chairman. Custom, however, has practically taken away this right, and it is considered bad form to elect any other person than the first-named as chairman. The mover of a motion to commit, should be placed on the committee and first-named, except where the matter committed concerns him personally. In the appointment of the committee no person directly opposed to the measure committed should be named, and when any person who is thus opposed to same, hears himself named of its committee he should ask to be excused.

The chair appoints all committees. Committees do not adjourn, but, when they have concluded their deliberations, should rise and report. The report should be presented by the chairman. When the report is received the committee is dissolved and cannot act further without new power.

Any committee required or entitled to report upon a subject referred to them may make a majority and minority report, while any member of such committee dissenting in whole or in part, from either the conclusion or the reasoning of both the majority and minority, may also present a statement of his reasons for such dissent, which should be received in connection with the reports.

The committee of the whole is an expedient to simplify the business of legislative bodies. No record is made of its proceedings. The presiding officer puts the question, and, if same is carried, appoints some person as chairman and then vacates the chair.

Motions.—Propositions made to a deliberative assembly are called *motions;* when the proposition is put to vote it is called the *question.* A motion cannot be entertained or the question put, until the same has been seconded. After this it becomes the property of the house, and cannot be withdrawn except by leave. It must be in writing whenever the house or presiding officer require it, and must be read when any person demands it for information.

An exception to the rule requiring a second to a motion is made in cases when the proposition is to proceed with or to execute an order of the house; as where it is moved to proceed with an order of the day, or where a call is made for the enforcement of some order relating to the observance of decorum.

No motion can be made while a speaker has the floor, nor while another motion is pending, except it be a question of privilege.

Amendments — A motion may be amended by inserting or adding words, or by striking out words, or by striking out and inserting words. An amendment takes precedence of the original question and must be first decided. So, too, an amendment to an amendment must be decided before the amendment. A motion may be made to amend, after which a motion will be to amend the amendment, but this is the full limit of the rule by which one motion may be put upon another. A motion to amend the second amendment is not in order.

Questions of privilege cannot be amended, except that a motion to postpone can be amended as to time.

The Question.— The question is first to be put on the affirmative and then on the negative side, the vote in most cases being by oral response. If there are doubts as to the voice of the majority, any one may call for a division. In all cases where the house is equally divided the question is lost, unless the presiding officer affirms it by a casting vote.

When a division is had, those in the affirmative on the question should first rise and be counted, or, if there still be a doubt, or a *count* be called for, the chairman should appoint two tellers, one from each side, to make the count and report the same to the chairman, who should then declare the same to the house.

In small matters of routine business or trifling importance such as receiving reports, withdrawing motions, etc., the presiding officer may suppose the consent of the house where no objection is expressed, and need not give them the trouble of putting the question formally.

A question should always be stated by the chair before it is put, *after* which it is open to debate. Questions may be stated by the *chair while sitting,* but he should always rise to put a question, and should use substantially this form: "As many as are of the opinion that (as the question may be) will say aye;" and, after the affirmative voice is expressed, "As many as are of a contrary opinion, will say no."

After a question has been put it is not debatable, but after the affirmative is put any person who has not spoken before to the question may rise and speak before the negative is put.

Division of Question.—Any person may call for the division of a question if it comprehend propositions, in substance so distinct, that, one being taken away, a substantive proposition shall remain for decision.

When a question is divided, after the question on the first part, the second is open to debate and amendment.

Privileged Questions.—When a question is under debate, no motion shall be received, except to adjourn; to lay on the table; for the previous question; to postpone to a day certain; to commit; to amend; to postpone indefinitely. These motions have precedence in the order in which they stand arranged, and are called privileged questions.

A motion to adjourn is always in order and takes precedence of all other motions, and an order of the day takes the place of all questions except adjournment.

When a matter has been laid on the table it may be taken up at at any time afterward and considered, but not at the same meeting or session at which it was tabled. Frequently this motion is made to finally dispose of the matter, and it always has this effect when no motion is afterward made to take it up. The proper motion for proceeding with a matter that has been ordered to lie on the table, is, that the house do now proceed to consider that matter, although it would be proper to move that the matter be taken up for consideration.

There are several questions which, being incidental to every one, will take the place of every one, privileged or not; as, a question of order arising out of any other question must be decided before that question.

A motion for indefinite postponement is generally resorted to in order to suppress a question or prevent its coming to vote.

Previous Question.—When any question is before the house any member may move that the question (called the main question) be now put, or, as it is usually termed, may move the previous question. If it pass in the affirmative, then the main question is to be put immediately, and no further debate is permitted.

The previous question being moved and seconded, the question from the chair should be, "Shall the main question be now put?" If the nays prevail the main question remains as the question before the house, in the same stage of proceedings as before the previous question was moved.

Equivalent Questions.—Where questions are perfectly equivalent, so that the negative of the one amounts to the affirmative of the other, and leaves no other alternative, the decision of the one necessarily concludes the other. Thus the negative of striking out amounts to the affirmative of agreeing; and, therefore, to put a question on agreeing after that of striking out, would be to put the same question in effect twice over.

Questions of Order.—It is the duty of the chairman to decide all questions of order whenever raised. Upon such questions no debate or discussion is in order, but if the decision is not satisfactory any one may object to it and appeal to the house. On appeal being taken, the question should be: "Shall the decision of the chair stand as the judgment of the house?" Whereupon the question may be debated and discussed the same as any other question.

Commitment.—Any measure may be referred to a committee, on motion. This motion stands in the same degree with the previous question and postponement, and, if first made, takes precedence of them. A motion to commit may be amended by the substitution of one kind of committee for another, or by enlarging or diminishing the number of the members of the committee, as originally proposed, or by instructions to the committee.

After a measure has been committed and reported, it should not, in an ordinary course, be recommitted, but in cases of importance, and for special reasons, it is sometimes recommitted, and usually to the same committee.

Reconsideration.—When a motion or question shall have been determined, either in the affirmative or negative, it is always in order for any one who voted with the majority, or in case the vote was equally divided, for one who voted in the negative, to move for a reconsideration thereof. Such motion must be made at the same meeting at which the former vote was taken. A motion to reconsider, being put and lost, cannot be renewed.

Undebatable Motions.—A motion to adjourn; to lay on the table, and a call for the previous question, must be decided without debate. And all incidental questions of order, arising after a motion is made for either of the foregoing questions, must be decided, whether on appeal or otherwise, without debate.

Order in Debate.—When a person means to speak, he is to stand up in his place, uncovered, and address himself to the chair, who calls him by name, that all may take notice who it is that speaks. A person who is indisposed may be indulged to speak sitting.

When a person rises to speak, no question is to be put, but he is to be heard undisturbed, unless overruled.

If two or more rise to speak nearly together, the chair determines who was first up and calls him by name, whereupon he proceeds, unless he voluntarily sits down and yields the floor to the other.

No one may speak more than twice to the same question without the consent of the house, except merely to explain himself in some material part of his speech, or to the manner of the words in question keeping himself to that only and not going into the merits of it.

If the chairman rises to speak, the person standing must sit down, that the chair may be first heard.

No one is to speak impertinently, or beside the question, or to use indecent language against the proceedings of the house. Nor should a person in speaking, mention another then present, by his name, but should describe him by his seat, or as "the gentleman who spoke last," or, "on the other side of the question," etc.

Any one when called to order by another or by the chair, must sit down, and not proceed without leave until the question of order shall have been decided by the chair.

While the presiding officer is addressing the house or putting a question, no one should cross the floor or leave the room; nor while another is speaking, walk between him and the chair.

Adjournment.—A motion to adjourn is not susceptible of amendment. If it is desirable to adjourn to any particular place or time, this mav be accomplished by a previous resolution to that effect.

Industries of the States

Alabama ranks fourth in cotton.

Arizona ranks second in silver.

California ranks first in barley, grape culture, sheep, gold and quicksilver.

Colorado ranks first in silver.

Connecticut ranks first in clocks.

Delaware is way up in peaches.

Dakota is the finest wheat-growing state.

Florida ranks third in sugar and molasses.

Georgia ranks second in rice and sweet potatoes.

Indiana ranks second in wheat.

Illinois ranks first in oats, meat-packing, lumber traffic, malt and distilled liquors, and miles of railway.

Iowa ranks first in average intelligence of population, first in production of corn, and first in number of swine.

Idaho ranks sixth in gold and silver.

Kansas ranks fifth in cattle, corn and rye.

Kentucky ranks first in tobacco and has a world-wide reputation for thoroughbred horses and cattle.

Louisiana ranks first in sugar and molasses.

Maine ranks first in ship-building, slate and granite quarries, lumbering and fishing.

Maryland ranks fourth in coal.

Massachusetts ranks first in cotton, woolen and worsted goods, and in cod and mackerel fisheries.

Michigan ranks first in copper, lumber and salt.

Minnesota ranks fourth in wheat and barley.

Mississippi ranks second in cotton.

Missouri ranks first in mules.

Montana ranks fifth in silver and gold.

New Mexico's grazing facilities can't be beat.

Nebraska has abundant crops of rye, buckwheat, barley, flax, and hemp.

Nevada ranks second in gold.

New Hampshire ranks third in the manufacture of coton goods.

New Jersey ranks first in fertilizing marl, zinc, and silk goods.

New York ranks first in the value of manufactures, soap, printing and publishing, hops, hay, potatoes, buckwheat, and milch cows.

North Carolina ranks first in tar and turpentine.

Ohio ranks first in agricultural implements and wool.

Oregon takes the palm for cattle-raising.

Pennsylvania ranks first in rye, iron, steel, petroleum, and coal.

Rhode Island, in proportion to its size, outranks all other states in value of manufactures.

South Carolina ranks first in phosphates.

Tennessee ranks second in peanuts.

Texas ranks first in cattle and cotton.

Utah ranks third in silver.

Vermont ranks fourth in copper.

Virginia ranks first in peanuts.

West Virginia ranks fifth in salt and coal.

Wisconsin ranks second in hops.

TABLE SHOWING DIFFERENCE BETWEEN APPARENT AND TRUE LEVEL AT VARIOUS DISTANCES.

Dist.	Diff. of Level.	Dist.	Diff. of Level.	Dist.	Diff. of Level.		Dist.	Diff. of Level.	
yards	inches	yards	inches	miles	ft.	in.	miles	ft.	in.
100	0.026	1000	2.570	¼	0	0½	7	32	6
200	0.103	1100	3.110	½	0	2	8	42	6
300	0.231	1200	3.701	¾	0	4½	9	53	9
400	0.411	1300	4.344	1	0	8	10	66	4
500	0.643	1400	5.038	2	2	8	11	80	3
600	0.925	1500	5.784	3	6	0	12	95	7
700	1.200	1600	6.580	4	10	7	13	112	2
800	1.645	1700	7.425	5	16	7	14	130	1
900	2.081	1800	8.324	6	23	11	15	150	0

EXPLANATION.—A true level is in the circumference of a circle, drawn through the same point, the center of which is at the center of the earth. An apparent level consists of a continuation of the level plane drawn through the point at which the observation is made. For example, an apparent level at the sea-shore would, at *a distance of ten* miles, just touch the top of an object sixty-six *feet four inches high.*

Salaries of United States Officers, per annum.

PRESIDENT, VICE-PRESIDENT AND CABINET.—President, $50,000; Vice-President, $8,000; Cabinet Officers, $8,000 each.

UNITED STATES SENATORS.—$5,000, with mileage.

CONGRESS.—Members of Congress, $5,000, with mileage.

SUPREME COURT.—Chief Justice, $10,500; Associate Justices $10,000.

CIRCUIT COURTS.—Justices of Circuit Courts, $6,000.

HEADS OF DEPARTMENTS.—Supt. of Bureau of Engraving and Printing, $4,500; Public Printer, $4,500; Supt. of Census, $5,000; Supt. of Naval Observatory, $5,000; Supt. of the Signal Service, $4,000; Director of Geological Surveys, $6,000; Director of the Mint, $4,500; Commissioner of General Land Office, $4,000; Commissioner of Pensions, $3,600; Commissioner of Agriculture, $3,000; Commissioner of Indian Affairs, $3,000; Commissioner of Education, $3,000; Commander of Marine Corps, $3,500; Supt. of Coast and Geodetic Survey, $6,000.

UNITED STATES TREASURY.—Treasurer, $6,000; Register of Treasury, $4,000; Commissioner of Customs, $4,000.

INTERNAL REVENUE AGENCIES.—Supervising Agents, $12 per day; 34 other Agents, per day, $6 to $8.

POST-OFFICE DEPARTMENT, Washington.—Three Assistant Postmaster-Generals, $3,500; Chief Clerk, $2,200.

POSTMASTERS.—Postmasters are divided into four classes. First Class, $3,000 to $4,000, (excepting New York City, which is $8,000); second class, $2,000 to $3,000; third class, $1,000 to $2,000; fourth class less than $1,000. The first three classes are appointed by the President, and confirmed by the Senate; those of fourth class are appointed by the Postmaster-General.

DIPLOMATIC APPOINTMENTS.—Ministers to Germany, Great Britain, France, and Russia, $17,500; Ministers to Brazil, China, Austria-Hungary, Italy, Mexico, Japan, and Spain, $12,000; Ministers to Chili, Peru, and Central Amer., $10,000; Ministers to Argentine Confederation, Hawaiian Islands, Belgium, Hayti, Columbia, Netherlands, Sweden, Turkey, and Venezuela, $7,500; Ministers to Switzerland, Denmark, Paraguay, Bolivia, and Portugal, $5,000; Minister to Liberia, $4,000.

ARMY OFFICERS.—General, $13,500; Lieut.-General, $11,000; Major-General, $7,500; Brigadier-General, $5,500; Colonel, $3,500; Lieutenant-Colonel, $3,000; Major, $2,500; Captain, mounted, $2,000; Captain, not mounted, $1,800; Regimental Adjutant, $1,800; Regimental Quartmaster, $1,800; 1st Lieutenant, mounted, $1,600; 1st Lieutenant, not mounted, $1,500; 2d Lieutenant, mounted, $1,500; 2d Lieutenant, not mounted, $1,400; Chaplain, $1,500.

NAVY OFFICERS.—Admiral, $13,000; Vice-Admiral, $9,000; Rear-Admirals, $6,000; Commodores, $5,000; Captains, $4,500; Commanders, $3,500; Lieut.-Commanders, $2,800; Lieutenants, $2,400; Masters, $1,800; Ensigns, $1,200; Midshipmen, $1,000; Cadet Midshipmen, $500; Mates, $900; Medical and Pay Directors and Medical and Pay Inspectors and Chief Engineers, $4,400; Fleet Surgeons, Fleet Paymasters, and Fleet Engineers, $4,400; Surgeons and Paymasters, $2,800; Chaplains, $2,500.

POPULAR AND ELECTORAL VOTES FOR PRESIDENTS.

Year.	CANDIDATES.	PARTY.	Popular Vote.	Elec'l Vote.
1824	Andrew Jackson	Democrat	152,872	99
1824	John Q. Adams	Federal	105,321	84
1824	W. H. Crawford	Republican	44,282	41
1824	Henry Clay	Republican	46,587	37
1828	Andrew Jackson	Democrat	647,231	178
1828	John Q. Adams	Federal	509,097	83
1832	Andrew Jackson	Democrat	687,502	219
7832	Henry Clay	Nat. Republican	530,189	49
1832	John Floyd	Whig		11
1832	William Wirt	Whig		7
1836	Martin Van Buren	Democrat	761,549	170
1836	W. H. Harrison	Whig	736,656	73
1836	Hugh L. White	Whig		26
1836	Daniel Webster	Whig		14
1836	W. P. Mangum	Whig		11
1840	Martin Van Buren	Democrat	1,128,702	48
1840	W. H. Harrison	Whig	1,275,017	234
1810	J. G. Birney	Liberty	7,059	....
1844	James K. Polk	Democrat	1,337,243	170
1844	Henry Clay	Whig	1,299,068	105
1844	James G. Birney	Liberty	63,300	....
1848	Zachary Taylor	Whig	1,360,101	163
1848	Lewis Cass	Democrat	1,220,544	127
1848	Martin Van Buren	Free Soil	291,263	....
1852	Franklin Pierce	Democrat	1,601,474	254
1852	Winfield Scott	Whig	1,386,578	42
1852	John P. Hale	Free Soil	156,149	...
1856	James Buchanan	Democrat	1,838,169	174
1856	John C. Fremont	Republican	1,341,262	114
1856	Millard Fillmore	American	874,534	8
1860	Abraham Lincoln	Republican	1,866,352	180
1860	Stephen A. Douglas	Democrat	1,375,15[illegible]	12
1860	John C. Breckenridge	Democrat	845,763	72
1860	John Bell	Union	589,581	39
1864	Abraham Lincoln	Republican	2,216,067	212
1864	Geo. B. McClellan	Democrat	1,808,725	21
1858	U. S. Grant	Republican	3,015,071	214
1868	Horatio Seymour	Democrat	2,709,613	80
1872	U. S. Grant	Republican	3,597,070	286
1872	Horace Greeley	Liberal and Dem.	2,834,079	....
1872	Charles O'Conor	Democrat	29,408	....
1872	James Black	Temperance	5,608	....
1876	R. B. Hayes	Republican	4,033,950	185
1876	Samuel J. Tilden	Democrat	4,284,885	184
1876	Peter Cooper	Greenback	81,740	....
1876	G. C. Smith	Prohibition	9,522	....
1876	Scattering		2,636	...
1880	James A. Garfield	Republican	4,449,053	214
1880	Winfield S. Hancock	Democrat	4,442,035	155
1880	James B. Weaver	Greenback	307,306	....
1884	Grover Cleveland	Democrat	4,911,017	219
1884	James G. Blaine	Republican	4,848,334	182
1884	Benj. F. Butler	Greenback	133,825	....
1884	John P. St. John	Prohibition	151,800	....
1888	Benjamin Harrison	Republican	5,441,902	233
1888	Grover Cleveland	Democrat	5,538,560	168
1888	*Fisk*	Prohibition	249,937	....
1888	*Labor Vote*		147,521	....

POPULATION OF EVERY STATE AND TERRITORY, Etc.

UNITED STATES CENSUS OF 1890.

STATES.	Population.	Square Miles.	Electoral Vote.
Alabama	1.513 017	52.250	10
Arkansas	1 128 179	53 850	7
California	1 208 130	158 360	8
Colorado	412 198	103 925	3
Connecticut	746 258	4 990	6
Delaware	168 493	2 050	3
Florida	391 422	58.680	4
Georgia	1.837 353	59 475	12
Idaho	84 385	84 800	3
Illinois	3.826.351	56 650	22
Indiana	2.192 404	36 350	15
Iowa	1.911.896	56 025	13
Kansas	1 427.096	82.080	9
Kentucky	1.858 635	40 400	13
Louisiana	1.118 587	48 720	8
Maine	661 086	33.040	6
Maryland	1 042 390	12.210	8
Massachusetts	2.238 913	8.315	14
Michigan	2 093 889	58.915	13
Minnesota	1.301 826	83 365	7
Mississippi	1.289 600	46 810	9
Missouri	2.679 184	69 415	16
Montana	132.159	146 080	3
Nebraska	1.058 910	77.510	5
Nevada	45 761	110 700	3
New Hampshire	376 530	9.305	4
New Jersey	1.444.933	7 815	9
New York	5 997.853	49.170	36
North Carolina	1.617 947	52 250	11
North Dakota	182.719	68 645	3
Ohio	3,672 316	41 060	23
Oregon	313 767	96.030	3
Pennsylvania	5,258 014	45 215	30
Rhode Island	345.506	1 250	4
South Carolina	1.151 149	30 570	9
South Dakota	328 808	79,800	4
Tennessee.	1.766 518	42 050	12
Texas	2.235.523	265 780	13
Vermont	332 422	9 565	4
Virginia	1,655 980	42 450	12
Washington	349 390	69 180	3
West Virginia	762.794	24 780	6
Wisconsin	1 686.880	56.040	11
Wyoming	60.705	97 890	3
Delaware, Raritan and New York Bays		720	..
TOTAL, STATES,	61,908.906	2 634,530	420
TERRITORIES.			
Arizona	59 620	113.020	
District of Columbia	230·392	70	
New Mexico	153,593	122 580	
Oklahoma	61 834	39.450	
Utah	207.905	84 970	
TOTAL, TERRITORIES,	713.344	360,090	
Excluding Alaska, Indian Territory and Indians........Grand Total,	62,622,250		

How to Tell the Speed of a Train.

Here is a way to tell how fast you are traveling in a railway car. Every time a car passes over a rail-joint there is a distinct click. Count the number of these clicks in twenty seconds and you have the number of miles the train is going per hour. This is a simple matter of arithmetic, as the length of the rail is uniform.

Seasoning and Preserving Timber.

For the purpose of seasoning, timber should be piled under shelter, where it may be kept dry, but not exposed to a strong current of air. At the same time there should be a free circulation of air about the timber, with which view slats or blocks of wood should be placed between the pieces that lie over each other, near enough to prevent the timber from bending

In the sheds, the pieces of timber should be piled in this way, or in square piles, and classed according to age and kind. Each pile should be distinctly marked with the number and kind of pieces, and the age, or the date of receiving them.

The piles should be taken down and made over again at intervals, varying with the length of time the timber has been cut.

The seasoning of timber requires from two to four years, according to its size.

Gradual drying and seasoning in this manner is considered the most favorable to the durability and strength of timber, but various methods have been prepared for hastening the process. For this purpose, *steaming* and *boiling* timber has been applied with success; *kiln-drying* is serviceable only for boards and pieces of small dimensions, and is apt to cause cracks, and to impair the strength of wood, unless performed very slowly.

Timber of large dimension is improved by *immersion in water* for some weeks, according to its size, after which, it is less subject to warp and crack in steaming.

Oak timber loses about *one-fifth of its weight* in seasoning, and about *one-third of its weight* in becoming dry.

Growth of the United States.

This country began the present century with 5,308,483 people. In the year 1810 the population was 7,239,881, an increase of 36.28 per cent; in 1820 it was 9,633,822, an increase of 33.66 per cent; in 1830 it was 12,866,020, an increase of 32.51 per cent; in 1840 it was 17,069,453, an increase of 32.52 per cent; in 1850 it was 23,191,876, an increase of 35.83 per cent; in 1860 it was 31,443,321, an increase of 35.11 per cent; in 1870 it was 38,558,371, an increase of 22 65 per cent; in 1880 it was 50,155,783, an increase of 30.08 per cent; in 1890 it is 62,622,250, an increase of about 28 per cent. This great growth is shown by a few comparisons. The British Islands began the present century with three times as many people as the United States, and yet its present population is only three-fifths of our own. Of all the civilized countries, Russia has the most people, 113,354,649; but at our rate of increase it will not be many years before this country passes Russia. Another interesting fact is that the English language is spreading twice as rapidly as any other tongue, so that the future promises to the United States not only eadership in population, but in the language of the world.

FIVE PER CENT. INTEREST TABLE.

		$1	$2	$3	$4	$5	$10	$20	$30	$40	$50	$60	$70	$80	$90	$100	$200	$500	$1,000
DAYS.	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	3	7	14
	2	0	0	0	0	0	0	1	1	1	1	2	2	2	3	3	6	14	28
	3	0	0	0	0	0	0	1	1	2	2	3	3	3	4	4	8	21	42
	4	0	0	0	0	0	1	1	2	2	3	3	4	4	5	6	11	28	56
	5	0	0	0	0	0	1	1	2	3	3	4	5	6	6	7	14	35	69
	6	0	0	0	0	0	1	2	3	3	4	5	6	7	8	8	17	42	83
	7	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	19	49	97
	8	0	0	0	0	1	1	2	3	4	6	7	8	9	10	11	22	56	1.11
	9	0	0	0	1	1	1	3	4	5	6	8	9	10	11	13	25	63	1.25
	10	0	0	0	1	1	1	3	4	6	7	8	10	11	13	14	28	69	1.39
	15	0	0	1	1	1	2	4	6	8	10	13	15	17	19	21	42	1.04	2.08
	20	0	1	1	1	1	3	6	8	11	14	17	19	22	25	28	56	1.39	2.78
	25	0	1	1	1	2	3	7	10	14	17	21	24	28	31	35	69	1.74	3.47
	30	0	1	1	2	2	4	8	13	17	21	25	29	33	38	42	83	2.08	4.17
	33	0	1	1	2	2	4	9	14	19	23	28	32	36	42	46	91	2.29	4.59
	63	1	2	3	3	4	8	18	26	35	44	53	61	70	79	87	1.75	4.38	8.75
	93	1	3	4	5	6	13	26	39	52	65	78	91	1.03	1.17	1.29	2.58	6.46	12.92
MONTHS.	1	0	1	1	2	2	4	8	13	17	21	25	29	33	38	42	83	2.08	4.17
	2	1	2	3	3	4	8	17	25	33	42	50	58	67	75	83	1.67	4.17	8.33
	3	1	3	4	5	6	13	25	38	50	63	75	88	1.00	1.13	1.25	2.50	6.25	12.50
	4	2	3	5	7	8	17	33	50	67	83	1.00	1.17	1.33	1.50	1.67	3.33	8.33	16.67
	5	2	4	6	8	10	21	42	63	83	1.04	1.25	1.46	1.67	1.88	2.08	4.17	10.42	20.83
	6	3	5	8	10	13	25	50	75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	5.00	12.50	25.00
	7	3	6	9	12	15	29	58	88	1.17	1.46	1.75	2.04	2.33	2.63	2.92	5.83	14.58	29.17
	8	3	7	10	13	17	33	67	1.00	1.33	1.67	2.00	2.33	2.67	3.00	3.33	6.67	16.67	33.33
	9	4	8	11	15	19	38	75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	7.50	18.75	37.50
	10	4	8	13	17	21	42	83	1.25	1.67	2.08	2.50	2.92	3.33	3.75	4.17	8.33	20.83	41.67
	11	5	9	14	18	23	46	92	1.38	1.83	2.29	2.75	3.21	3.67	4.13	4.58	9.17	22.92	45.83
	1	5	10	15	20	25	50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	10.00	25.00	50.00

SIX PER CENT. INTEREST TABLE.

		$1	$2	$3	$4	$5	$10	$20	$30	$40	$50	$60	$70	$80	$90	$100	$ 200	$ 500	$1.000
DAYS.	1	0	0	0	0	0	0	0	1	1	1	1	1	1	2	2	3	8	17
	2	0	0	0	0	0	0	1	1	1	2	2	2	3	3	3	7	17	33
	3	0	0	0	0	0	1	1	2	2	3	3	4	4	5	5	10	25	50
	4	0	0	0	0	0	1	1	2	3	3	4	5	5	6	7	13	33	67
	5	0	0	0	0	0	1	2	3	3	4	5	6	7	8	8	17	42	83
	6	0	0	0	0	1	1	2	3	4	5	6	7	8	9	10	20	50	1.00
	7	0	0	0	0	1	1	2	4	5	6	7	8	9	11	12	23	58	1.17
	8	0	0	0	1	1	1	3	4	5	7	8	9	11	12	13	27	67	1.33
	9	0	0	0	1	1	2	3	5	6	8	9	11	12	14	15	30	75	1.50
	10	0	0	1	1	1	2	3	5	7	8	10	12	13	15	17	33	83	1.67
	15	0	1	1	1	1	3	5	8	10	13	15	18	20	23	25	50	1.25	2.50
	20	0	1	1	1	2	3	7	10	13	17	20	23	27	30	33	67	1.67	3.33
	25	0	1	1	2	2	4	8	13	17	21	25	29	33	38	42	83	2.08	4.17
	30	1	1	2	2	3	5	10	15	20	25	30	35	40	45	50	1.00	2.50	5.00
	33	1	1	2	2	3	6	11	17	22	28	33	39	44	50	55	1.10	2.75	5.50
	63	1	2	3	4	5	11	21	32	42	53	63	74	84	95	1.05	2.10	5.25	10.50
	93	2	3	5	6	8	16	31	47	62	78	93	1.09	1.24	1.40	1.55	3.10	7.75	15.50
MONTHS.	1	1	1	2	2	3	5	10	15	20	25	30	35	40	45	50	1.00	2.50	5.00
	2	1	2	3	4	5	10	20	30	40	50	60	70	80	90	1.00	2.00	5.00	10.00
	3	2	3	5	6	8	15	30	45	60	75	90	1.05	1.20	1.35	1.50	3.00	7.50	15.00
	4	2	4	6	8	10	20	40	60	80	1.00	1.20	1.40	1.60	1.80	2.00	4.00	10.00	20.00
	5	3	5	8	10	13	25	50	75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	5.00	12.50	25.00
	6	3	6	9	12	15	30	60	90	1.20	1.50	1.80	2.10	2.40	2.70	3.00	6.00	15.00	30.00
	7	4	7	11	14	18	35	70	1.05	1.40	1.75	2.10	2.45	2.80	3.15	3.50	7.00	17.50	35.00
	8	4	8	12	16	20	40	80	1.20	1.60	2.00	2.40	2.80	3.20	3.60	4.00	8.00	20.00	40.00
	9	5	9	14	18	23	45	90	1.35	1.80	2.25	2.70	3.15	3.60	4.05	4.50	9.00	22.50	45.00
	10	5	10	15	20	25	50	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	10.00	25.00	50.00
	11	6	11	17	22	28	55	1.10	1.65	2.20	2.75	3.30	3.85	4.40	4.95	5.50	11.00	27.50	55.00
	12	6	12	18	24	30	60	1.20	1.80	2.40	3.00	3.60	4.20	4.80	5.40	6.00	12.00	30.00	60.00

SEVEN PER CENT. INTEREST TABLE.

	$1	$2	$3	$4	$5	$10	$20	$30	$40	$50	$60	$70	$80	$90	$100	$200	$500	$1,000
DAYS.																		
1	0	0	0	0	0	0	0	1	1	1	1	1	2	2	2	4	10	19
2	0	0	0	0	0	0	1	1	2	2	2	3	3	4	4	8	19	39
3	0	0	0	0	0	1	1	2	2	3	4	4	5	5	6	12	29	58
4	0	0	0	0	0	1	2	2	3	4	5	5	6	7	8	16	39	78
5	0	0	0	0	0	1	2	3	4	5	6	7	8	9	10	19	49	97
6	0	0	0	0	1	1	2	4	5	6	7	8	9	11	12	23	58	1.17
7	0	0	0	1	1	1	3	4	5	7	8	10	11	12	14	27	68	1.36
8	0	0	0	1	1	2	3	5	6	8	9	11	12	14	16	31	78	1.56
9	0	0	1	1	1	2	4	5	7	9	11	12	14	16	18	35	88	1.75
10	0	0	1	1	1	2	4	6	8	10	12	14	16	18	19	39	97	1.94
15	0	1	1	1	1	3	6	9	12	15	18	20	23	26	29	58	1.46	2.92
20	0	1	1	2	2	4	8	12	16	19	23	27	31	35	39	78	1.94	3.89
25	0	1	1	2	2	5	10	15	19	24	29	34	39	44	49	97	2.43	4.86
30	1	1	2	2	3	6	12	18	23	29	35	41	47	53	58	1.17	2.92	5.83
33	1	1	2	2	3	7	13	20	25	32	39	45	52	58	64	1.29	3.21	6.41
63	1	2	4	5	6	13	24	37	49	61	74	86	93	1.10	1.23	2.45	6.12	12.25
93	2	4	5	7	9	19	36	55	72	91	1.09	1.27	1.45	1.63	1.81	3.62	9.04	18.08
MONTHS.																		
1	1	1	2	2	3	6	12	18	23	29	35	41	47	53	58	1.17	2.92	5.83
2	1	2	4	5	6	12	23	35	47	58	70	82	93	1.05	1.17	2.33	5.83	11.67
3	2	4	5	7	9	18	35	53	70	88	1.05	1.23	1.40	1.58	1.75	3.50	8.75	17.50
4	2	5	7	9	12	23	47	70	93	1.17	1.40	1.63	1.87	2.10	2.33	4.67	11.67	23.33
5	3	6	9	12	15	29	58	88	1 17	1.46	1.75	2.04	2.33	2.63	2.92	5.83	14.58	29.17
6	4	7	11	14	18	35	70	1.05	1.40	1.75	2.10	2.45	2.80	3.15	3.50	7.00	17.50	35.00
7	4	8	12	16	20	41	82	1.23	1.63	2.04	2.45	2.86	3.27	3.68	4.08	8.17	20.42	40.83
8	5	9	14	19	23	47	93	1.40	1.87	2.33	2.80	3.27	3.73	4.20	4.67	9.33	23.33	46.67
9	5	11	16	21	26	53	1.05	1.58	2.10	2.63	3.15	3.68	4.20	4 73	5.25	10.50	26.25	52.50
10	6	12	18	23	29	58	1.17	1.75	2.33	2.92	3.50	4.08	4.67	5.25	5.83	11.67	29.17	58.33
11	6	13	19	26	32	64	1.28	1.93	2.57	3.21	3.85	4.49	5.13	5.78	6.42	12.83	32.08	64.17
12	7	14	21	28	35	70	1.40	2.10	2.80	3.50	4.20	4.90	5.60	6.30	7.00	14.00	35.00	70.00

EIGHT PER CENT. INTEREST TABLE.

TIME.	$1	$2	$3	$4	$5	$6	$7	$8	$9	$10	$100	$1000
1 DAY.....	0	0	0	0	0	0	0	0	0	0	2	22
2 "	0	0	0	0	0	0	0	0	0	0	4	44
3 "	0	0	0	0	0	0	0	1	1	1	7	67
4 "	0	0	0	0	0	1	1	1	1	1	9	89
5 "	0	0	0	0	1	1	1	1	1	1	11	1.11
6 "	0	0	0	1	1	1	1	1	1	1	13	1.33
7 "	0	0	0	1	1	1	1	1	1	2	16	1.56
8 "	0	0	1	1	1	1	1	1	2	2	18	1.78
9 "	0	0	1	1	1	1	1	2	2	2	20	2.00
10 "	0	0	1	1	1	1	2	2	2	2	22	2.22
11 "	0	0	1	1	1	1	2	2	2	2	24	2.44
12 "	0	1	1	1	1	2	2	2	2	3	27	2.67
13 "	0	1	1	1	1	2	2	2	3	3	29	2.89
14 "	0	1	1	1	2	2	2	2	3	3	31	3.11
15 "	0	1	1	1	2	2	2	3	3	3	33	3.33
16 "	0	1	1	1	2	2	2	3	3	4	36	3.56
17 "	0	1	1	2	2	2	3	3	3	4	38	3.78
18 "	0	1	1	2	2	2	3	3	4	4	40	4.00
19 "	0	1	1	2	2	3	3	3	4	4	42	4.22
20 "	0	1	1	2	2	3	3	4	4	4	44	4.44
21 "	0	1	1	2	2	3	3	4	4	5	47	4.67
22 "	0	1	1	2	2	3	3	4	4	5	49	4.89
23 "	1	1	2	2	3	3	4	4	5	5	51	5.11
24 "	1	1	2	2	3	3	4	4	5	5	53	5.33
25 "	1	1	2	2	3	3	4	4	5	6	56	5.56
26 "	1	1	2	2	3	3	4	5	5	6	58	5.78
27 "	1	1	2	2	3	4	4	5	5	6	60	6.00
28 "	1	1	2	2	3	4	4	5	6	6	62	6.22
29 "	1	1	2	3	3	4	5	5	6	6	64	6.44
1 MON.....	1	1	2	3	3	4	5	5	6	7	67	6.67
2 "	1	3	4	5	7	8	9	11	12	13	1.33	13.33
3 "	2	4	6	9	10	12	14	16	18	20	2.00	20.00
4 "	3	5	8	1	13	16	19	21	24	27	2.67	26.67
5 "	3	7	10	13	17	20	23	27	30	33	3.33	33.33
6 "	4	8	12	16	20	24	28	32	36	40	4.00	40.00
7 "	5	9	14	19	23	28	33	37	42	47	4.67	46.67
8 "	5	11	16	21	27	32	37	43	48	53	5.33	53.33
9 "	6	12	18	24	30	36	42	48	54	60	6.00	60.00
10 "	7	13	20	27	33	40	47	5	60	67	6.67	66.67
11 "	7	15	22	29	37	44	51	59	66	73	7.33	73.33
1 YEAR....	8	16	24	32	40	48	56	64	72	80	8.00	80.00

Builders' Estimating Tables.

Table showing quantity of material in every four lineal feet of exterior wall in a balloon frame building, height of wall being given:

Length of Studs.	**Size of Sills.**	**Size of Studs, Braces, etc.**	Quantity of Rough Lumber.	Quantity of Inch Boarding.	Siding in sup. feet.	Tar Paper in sup. feet.
8	6x 6	2x4 studs.	42	36	40	74
10	6x 8	4x4 braces.	52	44	50	80
12	6x10	4x4 plates.	62	53	60	96
14	6x10	1x6 ribbons.	69	62	70	112
16	8x10		82	71	80	128
18	8x10	studs	87	80	90	144
20	8x12	16 inches from	98	88	100	160
22	9x12	centers.	109	97	110	176
24	10x12		119	106	420	192
18	10x10	2x6 studs.	122	80	90	144
20	10x12	6x6 braces.	137	88	100	160
22	10x12	4x6 plates.	145	97	110	176
24	12x12	1x6 ribbons.	162	106	120	192
26	10x14		169	114	130	208
28	10x14	studs 16 inch centers.	176	123	140	224
30	12x14		198	132	150	240

Table showing amount of lumber in rafters, collar-piece and boarding, and number of shingles to four lineal feet of roof, measured from eave to eave over ridge. Rafters 16-inch centers:

Width of House. Feet.	Size of Rafters.	Size of Collar-piece.	Quantity of Lumber in Rafter and Collar-piece.	Quant'y of Board'g Feet.	No. of Shingl's
14	2x4	2x4	39	91	560
16	2x4	2x4	45	70	640
18	2x4	2x4	50	79	720
20	2x4	2x4	56	88	800
22	2x4	2x4	62	97	880
24	2x4	2x4	67	106	960
20	2x6	2x6	84	88	800
22	2x6	2x6	92	97	880
24	2x6	2x6	101	106	960
26	2x6	2x6	109	115	10
28	2x6	2x6	117	124	11
30	2x6	2x6	126	133	1

WAGES TABLES — VALUE OF TIME — FOR DAYS, AT STATED RATES PER MONTH.

Rate.	$14	$15	$16	$17	$18	$19	$20	$21	$22	$23	$24	$25
Days.												
1.........	.54	.58	.62	.65	.69	.73	.77	.81	.85	.88	.92	.96
2.........	1.08	1.15	1.23	1.31	1.38	1.46	1.54	1.62	1.69	1.77	1.85	1.92
3.........	1.62	1.73	1.85	1.96	2.08	2.19	2.31	2.42	2.54	2.65	2.77	2.88
4.........	2.15	2.31	2.46	2.62	2.77	2.92	3.08	3.23	3.38	3.54	3.69	3.85
5.........	2.69	2.88	3.08	3.27	3.46	3.65	3.85	4.04	4.23	4.42	4.62	4.81
6.........	3.23	3.46	3.69	3.92	4.15	4.38	4.62	4.85	5.08	5.31	5.54	5.77
7.........	3.77	4.04	4.31	4.58	4.85	5.12	5.38	5.65	5.92	6.19	6.46	6.73
8.........	4.31	4.62	4.92	5.23	5.54	5.85	6.15	6.46	6.77	7.08	7.38	7.69
9.........	4.85	5.19	5.54	5.88	6.23	6.58	6.92	7.27	7.62	7.96	8.31	8.65
10.........	5.38	5.77	6.15	6.54	6.92	7.31	7.69	8.08	8.46	8.85	9.23	9.62
11.........	5.92	6.35	6.77	7.19	7.62	8.04	8.46	8.88	9.31	9.73	10.15	10.58
12.........	6.46	6.92	7.38	7.85	8.31	8.77	9.23	9.69	10.15	10.62	11.08	11.54
13.........	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50
14.........	7.54	8.08	8.62	9.15	9.69	10.23	10.77	11.31	11.85	12.38	12.92	13.46
15.........	8.08	8.65	9.23	9.81	10.38	10.96	11.54	12.12	12.69	13.27	13.85	14.42
16.........	8.62	9.23	9.85	10.46	11.08	11.69	12.31	12.92	13.54	14.15	14.77	15.38
17.........	9.15	9.81	10.46	11.12	11.77	12.42	13.08	13.73	14.38	15.04	15.69	16.35
18.........	9.69	[illegible]	11.08	11.77	12.40	13.15	13.85	14.54	15.23	15.92	16.62	17.31
19.........	10.23	10.96	11.69	12.42	13.15	13.88	14.62	15.35	16.08	16.81	17.54	18.27
20.........	10.77	11.54	12.31	13.08	[illegible]	14.62	15.38	16.15	16.92	17.69	18.46	19.23
21.........	11.31	12.12	12.92	13.73	14.54	15.35	16.15	16.96	17.77	18.58	19.38	20.19
22.........	11.85	12.69	13.54	14.38	15.23	16.08	16.92	17.77	18.62	19.46	20.31	21.15
23.........	12.38	13.27	14.15	15.04	15.92	16.81	17.69	18.58	19.46	20.35	21.23	22.12
24.........	12.92	13.85	14.77	15.69	16.62	17.54	18.46	19.38	20.31	21.23	22.15	23.08
25.........	13.46	14.42	15.38	16.35	17.31	18.27	19.23	20.19	21.15	22.12	23.08	24.04
26.........	14.00	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00

Six Days' Wages.	One Day.	Eight Hours.	Six Hours.	Five Hours.	Four Hours.	Two Hours	One Hour.
$2	33⅓	26⅔	20	16⅔	13⅓	6⅔	3⅓
3	50	40	30	25	20	10	5
4	66⅔	53⅓	40	33⅓	26⅔	13⅓	6⅔
5	83⅓	66⅔	50	41⅔	33⅓	16⅔	8⅓
6	$1 00	80	60	50	40	20	10
7	1 16⅔	93⅓	70	58⅓	46⅔	23⅓	11⅔
8	1 33⅓	$1 06⅔	80	66⅔	53⅓	26⅔	13⅓
9	1 50	1 20	90	75	60	30	15
10	1 66⅔	1 33⅓	$1 00	83⅓	66⅔	33⅓	16⅔
11	1 83⅓	1 46⅔	1 10	91⅔	73⅓	36⅔	18⅓
12	2 00	1 60	1 20	$1 00	80	40	20
13	2 16⅔	1 73⅓	1 30	1 08⅓	86⅔	43⅓	21⅔
14	2 33⅓	1 86⅔	1 40	1 16⅔	93⅓	46⅔	23⅓
15	2 50	2 00	1 50	1 25	$1 00	50	25
16	2 66⅔	2 13⅓	1 60	1 33⅓	1 06⅔	53⅓	26⅔
17	2 83⅓	2 26⅔	1 70	1 41⅔	1 13⅓	56⅔	28⅓
18	3 00	2 40	1 80	1 50	1 20	60	30
19	3 16⅔	2 53⅓	1 90	1 58⅓	1 26⅔	63⅓	31⅔
20	3 33⅓	2 66⅔	2 00	1 66⅔	1 33⅓	66⅔	33⅓

Carpenters', Plasterers' and Bricklayers' Work.

To find how many square yards in a floor or wall: *multiply the length by the width or height, and divide the product by 9.*

How many square yards in a floor 18 ft. long and 14 ft. wide; and how many yards of carpet ¾ yd. wide, will it take?

To divide by a fraction, multiply the number by the *denominator*, and divide the product by the *numerator*.

To multiply by a fraction, multiply by the *numerator* and divide by the *denominator*.

14×18=252 sq. feet.
9)252(28 sq. yds.
28
4
3)112(37⅓ yds. carpet.
Ans. 28 sq. yds.
37⅓ yds. carpet.

Find how many square yards in the four walls and ceiling of a room 18 by 20, 11 ft. high; and the cost of plastering the same at 15 cts per sq yd

The length of the *four* walls is (*twice* 20 *and twice* 18) 76 feet, *which multiplied by the height* gives the sq. ft. in the walls. *The length multiplied by the width* gives the sq. ft. in the ceiling.

76×11=836 sq. ft. in four walls.
18×20=360 " " " ceiling.
9)1196(133 sq. yds. nearly.
.15
Ans. $19.95 for plastering.

To measure square timbers: ***multiply the length, width and thickness together, and divide the product by 12.***

How many square feet in a joist 2 by 8, 18 ft. long?

2×8×18=288÷12=24 ft. Ans

Sill 8 by 8, 22 ft. long? 8×8×22=1408÷12=117⅓ ft. Ans.

Amount of Paint Required for a Given Surface.

It is impossible to give a rule that will apply in all cases, as the amount varies with the kind and thickness of the paint, the kind of wood or other material to which it is applied, the age of the surface, etc. The following is an approximate rule: Divide the number of square feet of surface by 200. The result will be the number of gallons of liquid paint required to give two coats; or, divide by 18 and the result will be the number of pounds of pure ground white lead required to give three coats.

How to Kill Grease Spots before Painting.

Wash over smoky or greasy parts with saltpetre, or very thin lime white-wash. If soap-suds are used, they must be washed off thoroughly, as they prevent the paint from drying hard.

Dimensions of One Acre.

A square, whose sides are 12,649 rods, or 69.57 yards or 208.71 feet long, contains one acre. Table of dimensions of rectangle containing one acre:

RODS.

1 ×160	1½×106⅔	2 × 80	2½× 64
3 × 53⅓	3½× 45 5-7	4 × 40	4½× 35 5-9
5 × 32	5½× 29 1-11	6 × 26⅔	6½× 24 8-13
7 × 22 6-7	7½× 21⅓	8 × 20	8½× 18 14-17
9 × 17 7-9	9½× 16 16-19	10 × 16	10½× 15 5-21
11 × 14 6-11	11½× 13 21-33	12 × 13½	12½× 12 4-5
....	... .	....	12 13-20× 12 13-20

Roof Elevations.

By the 'pitch" of a roof is meant the relation which the height of the ridge above the level of the roof-plates bears to the span, or the distance between the studs on which the roof rests.

The length of rafters for the most common pitches can be found *as follows from any given span:*

If ¼ pitch, multiply span by 559, or 7-12 nearly.
If ⅓ “ “ “ “ 6 , or 3-5 “
If ⅜ “ “ “ “ 625, or ⅝ “
If ½ “ “ “ “ .71 , or 7-10 “
If ⅝ “ “ “ “ .8 , or 4-5 “
If full “ “ “ “ 1 12. or 1⅛ “

To lengths thus obtained must be added amount of projection of rafters at the eaves.

As rafters must be purchased of even lengths, a few inches more or less on their lengths will make a difference to the pitch so slight that it cannot be detected by the eye.

Example.—To determine the length of rafters for a roof constructed one-half pitch, with a span of 24 feet—24×.71=17.04; or, practically, just 17 feet. A projection of one foot for eaves makes the length to be purchased 18 feet.

How To Build Strong Frames.

Sheathing put on diagonally acts as a brace over the whole surface, and requires no more lumber than if put on horizontally. It is well to run the sheathing from each side up parallel with the rafters, if at the gable ends, and at similar angles at the sides. Roofing boards can be put on in the same manner. Studs can be allowed to project above the plates and the rafters spiked to the sides of studs. Partitions should be braced with waste stuff, and in such ways a building can be strengthened that it can be rolled over and over without coming to pieces, and the extra cost will simply consist in a few hours extra labor.

In some parts of the West, and especially in Nebraska, a framed sill is in use, which combines qualities that will make it of service to builders in many localities. A piece of 2x6 or 2x8 is laid upon the wall, and flush with one side of this a 2-inch piece of the same width as the joists is placed on edge and securely spiked on, thus making the bottom and one side of a trough. These can be fastened before being put in place. The joists are placed with their ends upon the bed of the sill and against the side, and spiked to both. The studs are halved down, in this case 8 inches, and nailed to side of sill and joists. The sides of the sill, running parallel with the joists, are formed by two of the joists themselves, either set flush with the face of the wall and the studs let down back, or set back two inches and the studs let down in front.

When the frame is finished, and before the floor is laid, the wall is built up behind and over the sill; thus holding all in place, guarding against wind, as the wall must be torn up before the building will go; and also, incidentally, against rats and other vermin. It will be found fully as strong and much cheaper than timber.

If posts are used for the foundation a modification of this arrangement will prove equally serviceable. The principal on which it depends is explained at length farther on. It is well known that a thin piece of timber put on edge, as in joists, etc., will support a much greater weight than if laid on its side. The strength of a piece *is in direct proportion* to the square of its depth and nearly *inversely as its length.* Thus it will be found that simply the 2x12, *8 feet long, without* considering the support afforded to it by the *walls, would have* a strength equal to four 2x4s 16 feet long. It might *be objected that* the joists would not rest on the 2x12, but on the end. *This is partly* true, but the joists are spiked to the 2x12, an are nailed to the studs, which rest on the sill, thus bindin whole t ner. Particular care must be taken to spike th side c e sill to the 2x4 or 2x6 base at short intervals. A parts must be well nailed together, and especially the studs joists, and the sills to the posts. This form will have abu strength and stiffness if the posts are not over 8 feet apart. constructed in this way, of these dimensions, contains the number of feet as a 6x6 sill, but will sustain a weight a greater than the latter, if the weights are placed at the cente as the studs are fastened together by the sheathing, the will be partly transferred from the sills to the posts. It ca be made of any lengths that will reach from post to post, a cost can thus be made less.

Shingles Required in a Roof.

To the square foot it takes 9 if exposed four inches; 8 if ex 4½ inches, and 7 1-5 if exposed 5 inches to the weather.

Find the number of shingles required to cover a roof 38 ft. and the rafters on each side 14 ft. Shingles exposed 4½ inc

$$28 \times 38 = 1064 \text{ (sq. ft.)} \times 8 = 8512 \text{ shingles.}$$

To find the length of rafters, giving the roof *one-third* take *three-fifths* of the width of the building. If the build 30 feet wide, they must be 18 feet long, exclusive of projecti

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MASON WORK—BRICK.

1⅛ barrels lime and ⅝ yard sand will lay 1,000 brick.

One man with 1¼ tenders will lay 1,800 to 2,000 brick per

RUBBLE.

1¼ barrels lime and 1 yard of sand will lay 100 feet of ston

One man will lay 150 feet of stone per day with one tender.

CEMENT.

1¼ barrels cement and ¾ yard sand will lay 100 feet rubble

Same time as to mason and tender as rubble.

NUMBER OF NAILS REQUIRED IN CARPEN WORK.

To case and hang one door, 1 lb.

To case and hang one window, ¾ lb.

Base, 100 lineal feet, 1 lb.

To put on rafters, joists, etc., 3 lbs. to 1,000 feet.

To put up studding, same.

To lay a 6-inch pine floor, 15 lbs. to 1,000 feet

LABOR.

To place joists, etc., on wall, $4 per 1,000
Put up jambs and case a door, $1.50.
Hanging door and locking, 50c. to 75c.
Fitting sash, 50c. to 75c.
Casing window, stool and apron, $1.00.
Hang outside blinds, 50c.
Hang inside blinds, 75c.; if boxed, $1.00.
Lay pine floor, 6 in., 30c. per square.
Lay pine floor, 4 in., 40c. per square.
Lay walnut floor, 3 in., $1 per square.
Roof and sheathing, 25c. per square.
To lay shingles, per 1,000, 75c. per square.

COST OF PAINTERS' WORK.

1 coat shellac, 50c. per square.
1 coat lead and oil, 75c. per square.
2 coats lead and oil, $1.50 per square.
3 coats lead and oil, $2.50 per square.
Sanding, 1 coat, 75c. per square.
Grain oak, 2 coats, $2.50 per square.
Grain walnut, 2 coats, $3.00 per square
To set glass, 10 per cent. of cost.
Calcimining, 60c. to 75c. per square
1 coat varnish, 50c. per square.

Floor, Wall and Roof Measure.

To find the number of square yards in a floor or wall: **Rule**—Multiply the length by the width or height (in feet) and divide the product by 9; the result will be square yards.

ESTIMATES OF MATERIALS.

3½ barrels of lime will do 100 square yards plastering, two coats.
2 " " " " 100 " " " one coat.
1½ bushels of hair " 100 " " "
1¼ yards good sand " 100 " " "

⅓ barrel of plaster (stucco) will hard-finish 100 square yards plastering.

1 barrel of lime will lay 1,000 bricks. (It takes good lime to do it)

2 barrels of lime will lay 1 cord rubble stone.

¼ barrel of lime will lay 1 perch rubble stone. (Estimating ¼ *cord to perch.)*

To every barrel of lime estimate about ⅝ yards of good sand *lastering and brick* work.

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IRON FURNACES.—There are about 690 iron furnace *he United States.* These turned out, in 1882, over 5,000,000 *pig iron.*

THE LARGEST TELESCOPE in the world is the *Lord Rosse*, which has an aperture of seventy-two inches. The largest in this country is at San Jose, Cal., having an aperture of twenty-eight inches.

Useful Information for Architects and Builders.

NUMBER OF NAILS AND TACKS PER POUND.

		NAILS. Size.		No. per lb.	
0	enny, fence	2	in	80	nails
8	" "	2½	"	50	"
10	" "	3	"	34	"
12	" "	3¼	"	39	"
3	" fine	1⅓	"	760	"
3	"	1¼	"	480	"
4	" ...	1½	"	300	"
5	"	1¾	"	200	"
6	"	2	"	160	"
7	"	2¼	"	128	"
8	"	2½	"	92	"
9	"	2¾	"	72	"
10	"	3	"	60	"
12	"	3¼	"	44	"
16	" ...	3½	"	32	"
20	"	4	"	24	"
30	"	4¼	"	18	"
40	"	5	"	14	"
50	"	5½	"	12	"

		TACKS. Length.		No. per lb.
1	oz	.... ⅓	inch	16,000
1¼	"	3-16	"	10,666
2	"	.... ¼	"	 8,000
2½	"	5-16	"	 6,400
3	"	.... ⅜	"	 5,333
4	"	7-16	"	 4,000
6	"	9-16	"	 2,666
8	"	.... ⅝	"	 2,000
10	"	11-16	"	 1,600
12	"	.... ¾		 1,333
14	"	13-16	"	 1,143
16	"	.... ⅞	"	 1,000
18	"	15-16	"	 888
20	"	1	"	 800
22	"	....1 1-16	"	 727
24	"	....1⅛	"	 666

1,000 shingles, laid 4 inches to the weather, will cover 100 square feet of surface, and 5 lbs. of shingle nails will fasten them on.

One-fifth more siding and flooring is needed than the number of square feet of surface to be covered, because of the lap in the siding and matching.

1,000 laths will cover 70 yards of surface, and 11 lbs. of lathe nails will nail them on; 8 bushels of good lime, 16 bushels of sand, and 1 bushel of hair, will make enough good mortar to plaster 100 square yards.

A cord of stone, 3 bushels of lime, and a cubic yard of sand, will lay 100 cubic feet of wall.

Five courses of brick will lay 1 foot in height on a chimney; *16 bricks in a course* will make a flue 4 ins. wide and 12 ins. long, and *8 bricks in a course* will make a flue 8 ins. wide and 16 ins. long.

Cement 1 bush. and sand 2 bush. will cover 3½ sq. yds. 1 inch *thick, 4½ sq. yds.* ¾ inch thick, and 6¾ sq. yds. ½ inch thick; *ush. cement* and 1 of sand will cover 2¼ sq. yds. 1 in. thick, uare yards ¾ inch thick, and 4½ square yards ½ inch thick.

Quantity of Bricks Required to Construct a Building.

Superficial Feet of Wall.	Number of Bricks to Thickness of 4 inch.	8 inch.	12 inch	16 inch	20 inch	24 inch
1	7	15	22	29	37	45
2	15	30	45	60	75	90
3	23	45	68	90	113	135
4	30	60	90	120	150	180
5	38	75	113	150	188	225
6	45	90	135	180	225	270
7	53	105	158	210	263	315
8	60	120	180	240	300	360
9	68	135	203	270	338	405
10	75	150	225	300	375	450
20	150	300	450	600	750	900
30	225	450	675	900	1,125	1,350
40	300	600	900	1,200	1,500	1,800
50	375	750	1,125	1,500	1,875	2,250
60	450	900	1,350	1,800	2,250	2,700
70	525	1,050	1,575	2,100	2,625	3,150
80	600	1,200	1,800	2,400	3,000	3,600
90	675	1,350	2,025	2,700	3,375	4,050
100	750	1,500	2,250	3,000	3,750	4,500
200	1,500	3,000	4,500	6,000	7,500	9,000
300	2,250	4,500	6,750	9,000	11,250	13,500
400	3,000	6,000	9,000	12,000	15,000	18.000

VALUE OF DIAMONDS.

Diamonds averaging one-half carat each, $60 per carat.

Diamonds averaging three-quarters carat each, $80 per carat.

Diamonds averaging one carat each, $100 per carat.

Diamonds averaging one and one-quarter carats each, $110 per carat.

Diamonds averaging one and one-half carats each, $120 per carat.

Diamonds averaging one and three-quarters carats each, $145 per carat.

Diamonds averaging two carats each, $175 per carat.

In other words, the value of the gem increases in the geometrical ratio of its weight. Four diamonds weighing together two carats *are worth $120; but* one diamond weighing just as much is worth *$350. Stones weighing* over two carats are about the same pric *per carat as two-carat* stones: they should be dearer, but they a *not, simply* because the demand for them is limited. If the dem *for diamonds* were as imperative as the demand for flour or *the geometrical* ratio would again come into play, and five *stones would* be valued in the thousands.

TABLE showing the requisite sizes of girders and joists for warehouses, the span and distance being given:

Distance apart.	SPAN OF GIRDERS.				Joists.	REMARKS.
	6 Feet.	8 Feet.	10 Feet.	12 Feet.		
Feet.	Inches.	Inches.	Inches.	Inches.	Inches.	
10	8x12	12x13	12x16	14x18	2½x10	Girders to have a bearing at each end and joists six inches.
12	9x12	12x14	12x18	16x18	3 x10	
14	10x12	12x15	14x18	....	3 x12	

TABLE showing quantity of lumber in every four lineal feet of partition, studs being placed 16 centers, waste included:

Height of partition. Feet.	Quantity of Studs 2x4. Feet.	If 2x6. Feet.
8	20	30
9	23	34
10	26	38
11	29	42
12	32	46
13	35	51
14	38	55
15	41	59
16	44	64

TABLE as before, adapted for churches, public halls, etc.

Distance apart.	SPAN OF GIRDERS.				Joists.	REMARKS.
	6 Feet.	8 Feet.	10 Ft.	12 Ft.		
Feet.	Inches.	Inches.	Inches.	Inches.	Inches.	
12	6x10	8x12	12x14	12x16	2 x 8	
13	6x11	9x12	11x15	12x17	2 x 9	
14	6x12	10x12	12x15	11x18	2 x 9	Bearings of girders and joists as above.
15	7x12	11x12	11x16	12x16	2 x10	
16	8x12	12x12	12x16	13x18	2 x10	
17	8x12	9x14	12x17	14x18	2 x12	
18	9x12	10x14	11x18	....	2 x12	
19	9x12	11x14	12x18	....	2½x12	Both tables are calculated for yellow pine.
20	10x12	12x14	13x18	....	2½x12	
21	10x12	11x15	14x18	....	2½x12	
22	11x12	12x15	....	....	3 x12	
23	11x12	11x16	....	....	3 x12	
24	10x12	12x16	....	....	3 x13	
25	10x13	12x17	....	....	3 x13	
6	10x14	12x18	....	....	3 x14	
7	10x14	12x18	....	....	3 x14	

The Use of the Steel Square.

The standard steel square has a blade 24 inches long and 2 inche wide, and a tongue from 14 to 18 inches long and 1½ inches wid The blade is exactly at right angles with the tongue, and the ang formed by them an exact right angle, or square corner. A prop square should have the ordinary divisions of inches, half inche quarters and eighths, and often sixteenths and thirty-second Another portion of the square is divided into twelfths of an inc this portion is simply a scale of 12 feet to an inch, used for any pu pose, as measuring scale drawings, etc. The diagonal scale on t tongue near the blade, often found on squares, is thus termed fro its diagonal lines However, the proper term is centesimal scal for the reason that by it a unit may be divided into 100 equal part are therefore any number to the 100th part of a unit may expressed. In this scale A B is one inch; then, if it be required take off 73-100 inches, set one foot of the compasses in the thi parallel under 1 at E, extend the other foot to the seventh diagon in that parallel at G, and the distance between E G is that require for E F is one inch and F G 73 parts of an inch.

Upon one side of the blade of the square, running parallel wi the length, will be found nine lines, divided at intervals of one in into sections or spaces by cross lines This is the plank, board an scantling measure. On each side of the cross lines referred to a figures, sometimes on one side of the cross line and often sprea over the line, thus, 1 | 4—9 | — We will suppose we have a boar 12 feet long and 6 inches wide. Looking on the outer edge of t blade we find 12; between the fifth and sixth lines, under 12, w be found 12 again; this is the length of the board. Now follow t space along toward the tongue till we come to the cross line unde 6 (on the edge of the blade), this being the width of the board; i this space will be found the figure 6 again, which is the answer i board measure, viz., six feet

On some squares will be found on one side of the blade 9 line and crossing these lines diagonally to the right are rows of figure as seven 1s, seven 2s, seven 3s, etc. This is another style of boar measure and gives the feet in a board according to its length an width.

In the center of the tongue will generally be found two parall lines, half an inch apart, with figures between them; this is terme the Brace Rule. Near the extreme end of the tongue will be foun 24-24 and to the right of these 33.95. The 24-24 indicate the tw sides of a right-angle-triangle, while the length of the brace is ind cated by 33.95. This will explain the use of any of the figures i the brace rule. On the opposite side of the tongue from the brac rule will generally be found the octagon scale, situated betwee two central parallel lines This space is divided into intervals an numbered thus; 10, 20, 30, 40. 50, 60. Suppose it becomes nece sary to describe an octagon ten inches square; draw a square inches each way and bisect the square with a horizontal and pendicular center line. To find the length of the octagon place one point of the compasses on any of the main divisions scale and the other leg or point on the tenth subdivision length being measured off on each side of center lines, touching the line of the octagon, will give the points from which to draw the octagonal lines. The size of the octagon must equal the number of spaces taken off from the tongue by the compasses.

Weight of a Cubic Foot of Earth, Stone, Metal, &c.

Article.	*Lbs.*	*Article.*	*Lbs.*
Alcohol	49	Lead, cast	709
Ash Wood	53	Lead, rolled	711
Bay Wood	51	Milk	64
Brass, gun metal	543	Maple	47
Brandy	58	Mortar	110
Beer	65	Mud	102
Blood	66	Marble, Italian	169
Brick, common	102	Marble, Vermont	165
Cork	15	Mahogany	66
Cedar	35	Oak, Canadian	54
Copper, cast	547	Oak, live, seasoned	67
Copper, plates	543	Oak, white, dry	54
Clay	120	Oil, linseed	59
Coal, Lehigh	56	Pine, yellow	34
Coal, Lackawanna	50	Pine, white	34
Cider	64	Pine, red	37
Chestnut	38	Pine, well seasoned	30
Ebony	83	Platina	1,219
Earth, loose	94	Red Hickory	52
Glass, Window	165	Silver	625¾
Gold	1,203⅔	Steel, plates	487¾
Hickory, pig nut	49	Steel, soft	489
Hickory, shell-bark	43	Stone, common, about	158
Hay, bale	9	Sand, wet, about	128
Hay, pressed	25	Spruce	31
Honey	90	Tin	455
Iron, cast	450	Tar	63
Iron, plates	481	Vinegar	67
Iron, wrought bars	486	Water, salt	64
Ice	57½	Water, rain	62
Lignum Vitæ Wood	83	Willow	36
Logwood	57	Zinc, cast	428

Composition of Solders.

Fine Solder is an alloy of two parts of Block Tin and one part of *Lead*. *Glazing* Solder is equal parts of Block Tin and Lead. *Plumbing* Solder, one part Block Tin, two parts Lead.

AVERAGE WEIGHT of an American man is 141½ pound of a woman, 124½ pounds.

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for the reason that by it a unit may be divided into 100 eq
and therefore any number to the 100th part of a uni
expressed. In this scale A B is one inch; then, if it be re
take off 73-100 inches, set one foot of the compasses in
parallel under 1 at E, extend the other foot to the seventh
in that parallel at G, and the distance between E G is that
for E F is one inch and F G 73 parts of an inch.

Upon one side of the blade of the square, running par
the length, will be found nine lines, divided at intervals of
into sections or spaces by cross lines This is the plank, b
scantling measure. On each side of the cross lines referr
figures, sometimes on one side of the cross line and ofte
over the line, thus, 1 | 4—9 | — We will suppose we hav
12 feet long and 6 inches wide. Looking on the outer ed
blade we find 12; between the fifth and sixth lines, unde
be found 12 again; this is the length of the board. Now f
space along toward the tongue till we come to the cross li
6 (on the edge of the blade), this being the width of the b
this space will be found the figure 6 again, which is the a
board measure, viz., six feet

On some squares will be found on one side of the blad
and crossing these lines diagonally to the right are rows of
as seven 1s, seven 2s, seven 3s, etc. This is another style
measure and gives the feet in a board according to its le
width.

In the center of the tongue will generally be found tw
lines, half an inch apart, with figures between them; this i
the Brace Rule. Near the extreme end of the tongue will
24-24 and to the right of these 33.95. The 24-24 indicate
sides of a right-angle-triangle, while the length of the bra
cated by 33.95. This will explain the use of any of the
the brace rule. On the opposite side of the tongue from
rule will generally be found the octagon scale, situated
two central parallel lines This space is divided into inte
numbered thus; 10, 20, 30, 40. 50, 60. Suppose it becom
sary to describe an octagon ten inches square; draw a
inches each way and bisect the square with a horizont
pendicular center line. To find the length of the o
place one point of the compasses on any of the main d
scale and the other leg or point on the tenth subd

length being measured off on each side of center lines, touching the line of the octagon, will give the points from which to draw the octagonal lines. The size of the octagon must equal the number of spaces taken off from the tongue by the compasses.

Weight of a Cubic Foot of Earth, Stone, Metal, &c.

Article.	*Lbs.*	*Article.*	*Lbs.*
Alcohol	49	Lead, cast	709
Ash Wood	53	Lead, rolled	711
Bay Wood	51	Milk	64
Brass, gun metal	543	Maple	47
Brandy	58	Mortar	110
Beer	65	Mud	102
Blood	66	Marble, Italian	169
Brick, common	102	Marble, Vermont	165
Cork	15	Mahogany	66
Cedar	35	Oak, Canadian	54
Copper, cast	547	Oak, live, seasoned	67
Copper, plates	543	Oak, white, dry	54
Clay	120	Oil, linseed	59
Coal, Lehigh	56	Pine, yellow	34
Coal, Lackawanna	50	Pine, white	34
Cider	64	Pine, red	37
Chestnut	38	Pine, well seasoned	30
Ebony	83	Platina	1,219
Earth, loose	94	Red Hickory	52
Glass, Window	165	Silver	625¾
Gold	1,203⅔	Steel, plates	487¾
Hickory, pig nut	49	Steel, soft	489
Hickory, shell-bark	43	Stone, common, about	158
Hay, bale	9	Sand, wet, about	128
Hay, pressed	25	Spruce	31
Honey	90	Tin	455
Iron, cast	450	Tar	63
Iron, plates	481	Vinegar	67
Iron, wrought bars	486	Water, salt	64
Ice	57½	Water, rain	62
Lignum Vitæ Wood	83	Willow	36
Logwood	57	Zinc, cast	428

Composition of Solders.

Fine Solder is an alloy of two parts of Block Tin and one part of *Lead. Glazing Solder* is equal parts of Block Tin and Lead. *Plumbing Solder,* one part Block Tin, two parts Lead.

AVERAGE WEIGHT of an American man is 141½ pounds; *of a woman, 124½* pounds.

Cost of Tin Roofing per Square and Square Foot.

The following table shows the cost per square and per sq foot of tin roofing, laid with 14x20 tin, with tin at any price $4 to $10 per box. The first column contains the price per b tin; the second column shows the cost of tin per square (100 sq feet) of surface, and the third column shows the cost of tin square foot of surface:

FLAT SEAM ROOFING—COST WITH 14x20 TIN.

Price of Tin per box.	Cost per square of flat roof 14x20 Tin.	Cost per sq. foot.	Price of Tin per box.	Cost per square of flat roof 14x20 Tin.	Cos sq.
$4.25	$2.21	.0221	$ 8.25	$4.29	
4.50	2.34	.0234	8.50	4.42	
4.75	2.47	.0247	8.75	4.55	
5 00	2.60	.0260	9.00	4.68	
5.25	2.73	.0273	9.25	4.81	
5.50	2.86	0286	9.50	4.94	
5.75	2.99	.0299	9.75	5.07	
6 00	3.12	.0312	10.00	5.20	
6.25	3.25	.0325	10 25	5.33	
6.50	3.38	.0338	10.50	5.46	
6.75	3.51	.0351	10.75	5.59	
7.00	3.64	.0364	11.00	5.72	
7.25	3.77	.0377	11.25	5.85	
7.50	3.90	.0390	11.50	5.98	
7.75	4.03	.0403	11 75	6 11	
8.00	4.16	.0416	12.00	6.24	

STANDING SEAM ROOFING—COST WITH 14x20

Price of Tin per box.	Cost per Square of stand'g seam roof with 14x20 Tin.	Cost per sq. foot	Price of Tin per box.	Cost per square of stand'g seam roof with 14x20 Tin.	Cos sq.
$4 25	$2.37	.0237	$ 7 25	$4 03	
4 50	2.51	.0251	7.50	4.17	
4.75	2.65	.0265	7 75	4 31	
5.00	2.79	.0279	8 00	4.45	
5.25	2.93	.0293	8 25	4.59	
5.50	3.06	.0306	8.50	4 73	
5.75	3.20	.0320	8.75	4 87	
6.00	3.34	.0334	9 00	5 01	
6.25	3.48	.0348	9 25	5 15	
6.50	3.62	.0362	9.50	5 29	
6.75	3.76	.0376	9 75	5 43	
7.00	3.90	.0390	10 00	5 57	

Cost of Tin Roofing per Square—continued.

FLAT SEAM ROOFING—COST WITH 20x28 TIN.

Price of Tin per box.	Cost per square of flat roof 20x28 Tin	Cost per sq. foot.	Price of Tin per box.	Cost per square of flat roof 20x28 Tin.	Cost per sq. foot.
$8.00	$2.01	.0201	$16.00	$4.01	.0401
8.50	2.13	.0213	16.50	4.13	.0413
9.00	2.26	.0226	17.00	4.26	.0426
9.50	2.38	.0238	17.50	4.38	.0438
10.00	2.51	.0251	18.00	4.51	.0451
10.50	2.63	.0263	18.50	4.63	.0463
11.00	2.76	.0276	19.00	4.76	.0476
11.50	2.88	.0288	19.50	4.88	.0488
12.00	3.00	.0300	20.00	5.01	.0501
12.50	3.13	.0313	20.50	5.13	.0513
13.00	3.25	.0325	21.00	5.26	.0526
13.50	3.38	.0338	21.50	5.38	.0538
14.00	3.50	.0350	22.00	5.51	.0551
14.50	3.63	.0363	22.50	5.63	.0563
15.00	3.75	.0375	23.00	5.76	.0576
15.50	3.88	.0388			

STANDING SEAM ROOFING—COST WITH 20x28 TIN.

Price of Tin per box.	Cost per square of standi'g seam roof with 20x28 Tin.	Cost per sq. foot.	Price of Tin per box.	Cost per square of standi'g seam roof with 20x28 Tin.	Cost per sq. foot.
$8.00	$2.15	.0215	$16.50	$4.42	.0442
8.50	2.28	.0228	17.00	4.56	.0456
9.00	2.41	.0241	17.50	4.69	.0469
9.50	2.55	.0255	18.00	4.82	.0482
10.00	2.68	.0268	18.50	4.96	.0496
10.50	2.82	.0282	19.00	5.09	.0509
11.00	2.95	.0295	19.50	5.23	.0523
11.50	3.09	.0309	20.00	5.36	.0536
12.00	3.21	.0321	20.50	5.49	.0549
12.50	3.35	.03[illegible]5	21.00	5.63	.0563
13.00	3.48	.03[illegible]8	21.50	5.76	.0576
13.50	3.62	.03[illegible]	22.00	5.90	.0590
14.00	3.75	.0375	22.50	6.03	.0603
14.50	3.89	.0389	23.00	6.17	.0617
15.00	4.02	.0402	23.50	6.30	.0630
15.50	4.15	.0415	24.00	6.43	.0643
16.00	4.29	.0429			

The Fastest Locomotive Ever Built.

The largest and fastest passenger engine ever built was by the Rhode Island Locomotive Works, for the New York, Providence and Boston Railroad Company The main driving wheels are six feet in diameter and set but seven feet six inches apart. This arrangement makes her run easily on curves. The cylinders are eighteen inches in diameter, with twenty-four-inch stroke. The boiler is fifty-four inches in diameter at the smoke-stack, with a wagon top. It extends to the very end of the cab, and necessitates the elevation of the engineer's seat to a height far above the fire-door. The fire required three tons of coal before the engine pulled out of the round-house to make her trips, and four tons will be carried on the tender. The tank of the latter will hold 4,000 gallons of water, and the total weight of the engine proper is 93,000 to 95,000 pounds. The weight on the driving wheel will be 66,000 pounds, or 4,800 more than the Connecticut.

She looks to be enormously high as she sets up well in the air, and her short smoke-stack adds to her apparent height. Every thing about her is steel. There is not a particle of brass or bright work about her. She will make the run from Providence to Groton, Conn., a distance of 62.5 miles, including a dead stop at Mystic drawbridge, as required by the statutes of Connecticut, in just 62.5 minutes, pulling at the same time eight cars four of which are Pullmans.

Notable Bridges of the World.

Sublician bridge, at Rome, oldest wooden bridge; seventh century. Twice rebuilt, but ruins only remain.

The bridge at Burton, over the Trent; once the longest bridge in England; 1,545 feet.

The old London bridge was the first stone bridge. Commenced in 1176, completed in 1209.

The bridge of the Holy Trinity, Florence, built in 1569; marble; 322 feet long

The Bridge of Sighs, at Venice, over which condemned prisoners passed to execution, was built in 1589.

The Rialto, at Venice, a single marble arch, built from designs of Michael Angelo, 98½ feet long; completed 1591.

Coalbrookdale bridge, England, was the first cast-iron bridge. Built over the Severn in 1779.

New London bridge, granite, from designs by L. Rennier. Commenced in 1824, completed in about seven years; cost $7,291,000.

The Britannia bridge, over the Menai Strait, Wales, 103 feet *above high water.* Wrought iron, 1,511 feet long, finished in 1850. *Cost, $3,008,000.*

The Niagara Suspension bridge was built by Roebling, in 1855. *Cost,* $400,000; 245 feet above water, 1,268 feet long, [illegible] *mated 1,200* tons.

Havre de Grace, over the Susquehanna, 3,271 feet long.

Brooklyn Bridge was commenced under the direction

ling in 1870, and completed in about thirteen years; 3,475 feet
135 feet high. Cost nearly $15,000,000.
e Canti-Lever bridge, 1884, over the Niagara, steel. Length
eet; total weight, 3,000 tons; cost was $222,000.
sh street bridge, Chicago, Ill., 1884, cost $132,000; the larg-
eneral traffic drawbridge in the world. Will accommodate
teams abreast, and its foot passages are seven feet wide in
lear. Swung by steam power and lighted by electric light.
cinnati, over Ohio river (suspension), 2,220 feet long.
ajans, over Danube river (stone), 4,770 feet long.
ghbridge, Harlem (stone), 1,460 feet long.
ctoria, Montreal (tubular), 9,144 feet long.
uisville, over Ohio river (truss), 5,218 feet long.
Louis, over the Mississippi (steel), 2,045 feet long.

Height of Principal Monuments and Towers.

ACES.	NAMES.	FEET.
, France	Eifel	1,000
ington, D. C.	Washington Monument	555
t	Pyramid of Cheops	486
ium	Antwerp Cathedral	476
ce	Strasburg Cathedral	474
t	Pyramid of Cephrenes	456
e	St. Peter's Church	448
any	St. Martin's Church at Landshut	411
and	St. Paul's Church, London	365
and	Salisbury Cathedral	400
	Cathedral at Florence	386
ardy	Cathedral at Cremona	397
any	Church at Fribourg	386
n	Cathedral of Seville	360
ardy	Cathedral of Milan	355
nd	Cathedral of Utrecht	356
t	Pyramid of Sakkarah	356
ria	Cathedral of Notre Dame, Munich	348
ce	St. Mark's Church	328
	Assinelli Tower, Bologna	272
York	Trinity Church	284
lostan	Column at Delhi	262
a	Porcelain Tower, Nankin	260
s	Church of Notre Dame	224
sachusetts	Bunker Hill Monument	221
	Leaning Tower of Pisa	179
imore	Washington Monument	175
s	Monument, Place Vendome	153
	Trajan's Pillar, Rome	151
	Obelisk of Luxor	110

DERSONVILLE. — The total number of deaths in Ander
prison was 12,462, about one-third of which took place in
kade and two-thirds in the hospital. The greatest number
ed at any one time was 33,006. Number of escapes, 328.

IMPORTANT EVENTS OF THE LATE CIVIL WAR.

A complete list containing every engagement, great and small, during the Late Civil War, with casualties on both sides so far as known, and the victors in the more important battles; compiled expressly for Conklin's Handy Manual, from the records of the Government for Grand Army reference, and being the only list ever published for the public.

The following abstract may be depended upon as being as nearly reliable as can be compiled. Were it possible to consult the memory of every veteran who took part in our memorable struggle, much more could doubtless be added. Many of the casualties were never recorded in the heat and confusion of battle, but, so far as they appear on the records on either side, they are here inscribed:

NOVEMBER, 1860.

10—Bill to equip and raise 10,000 volunteers introduced in South Carolina Legislature.

18—Georgia Legislature voted $1,000,000 to arm the State.

20—23—Specie payment suspended by banks in Richmond, Baltimore, Washington, Philadelphia and Trenton, also generally through the South.

DECEMBER, 1860.

3—A John Brown anniversary meeting in Boston broken up by riot,

10—Louisiana Legislature voted $500,000 to arm the State.

24—Election in Alabama—60,000 majority for secession.

27—Troops ordered out in Charleston.

JANUARY, 1861.

5—Steamer Star of the West sailed from N. Y. with supplies and reinforcements for Fort Sumter, arrived off Charleston on 9th, was fired upon and driven back to sea; returned to N. Y. on 12th with two shot holes in her hull.

7—Senator Toombs, of Georgia, made a secession speech in U. S. Senate.

18—Virginia Legislature appropriated $1,000,000 for the defense of the State.

21—Jefferson Davis withdrew from U. S. Senate.

31—U. S. Mint at New Orleans seized by State authorities.

FEBRUARY, 1861.

9—Jefferson Davis elected President of C. S. A.

9—U. S. $25,000,000 loan bill signed by the President.

MARCH, 1861.

4—Abraham Lincoln inaugurated President.

26—Sam Houston, Governor of Texas, deposed for refu
o take an oath of allegiance to the C. S. A

DATE.	APRIL, 1861	CASUALTIES. UNION. K.	UNION. W.	UNION. M. P.	CONFED. K.	CONFED. W.	CONFED. M. P.
12	Bombardment of Fort Sumter. No casualties..........						
15	Evacuation of Ft. Sumter, S.C.	1	3				
19	Riots in Baltimore, Md.......	4	20		9		
	MAY.						
2	N. Y. 69th Regment arrived in Washington................						
5	Gen. Butler took possession of Relay House............						
10	Camp Jackson, Mo...........						639
10	Riots in St. Louis, Mo........	4			27		
11	Charleston blockade establs'd						
17	C. S. Cong. authorized issue of $50,000,000 8% 20-year bonds						
29	Pres't Davis reached Richm'd						
31	Cavalry skirmish at Fairfax C. H. Va..................						
	JUNE.						
1	Fairfax Court House, Va......	1	4		1	14	
3	Phillippi, West Virginia......		2			16	
10	Big Bethel, Va...............	16	34		1	7	
11	*Romney, West Virginia......		1		2	1	
14	Confederates evacuate and burn Harper's Ferry, Va....						
17	Vienna, Virginia.............	5	6		6		
17	*Boonville, Mo..............	2	19		15	20	
17	Edward's Ferry. Md.........	1	4		15		
18	Camp Cole, Mo..............	15	52		4	20	
23	48 B. & O. R. R. locomotives, valued at $400,000, destroyed by the Confederates........						
26	Patterson Creek, Va..........	1	1		7	2	
27	Matthias' Point, Va..........	1	4				
29	General council of war held at Washington................						
	JULY.						
2	Falling Waters, Md..........	8	15		31	50	
5	*Carthage, or Dry Forks, Mo.	13	31		40	125	45
5	Newport News...............		6			6	
5	President Lincoln called for 400,000 men and $400,000,000 to put down the rebellion...						
6	Middle Creek Fork, W. Va...	1	6		7		
7	Great Falls, Va..............	2			12		
8	Laurel Hill, W. Va...........	2	6				
10	Monroe Station, Mo..........	3			4	20	
1	Rich Mt., Va. (Camp lost and						

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31	Cavalry skirmish at Fairfax C. H. Va....................						
	JUNE.						
1	Fairfax Court House, Va......	1	4		1	14	
3	Phillippi, West Virginia......		2			16	
10	Big Bethel, Va................	16	34		1	7	
11	*Romney, West Virginia......		1		2	1	
14	Confederates evacuate and burn Harper's Ferry, Va....						
17	Vienna, Virginia..............	5	6		6		
17	*Boonville, Mo...............	2	19		15	20	
17	Edward's Ferry. Md..........	1	4		15		
18	Camp Cole, Mo...............	15	52		4	20	
23	48 B. & O. R. R. locomotives, valued at $400,000, destroyed by the Confederates........						
26	Patterson Creek, Va..........	1	1		7	2	
27	Matthias' Point, Va...........	1	4				
29	General council of war held at Washington.................						
	JULY.						
2	Falling Waters, Md...........	8	15		31	50	
5	*Carthage, or Dry Forks, Mo.	13	31		40	125	45
5	Newport News................		6			6	
5	President Lincoln called for *400,000 men* and $400,000,000 *to put down* the rebellion...						
6	*Middle Creek* Fork, W. Va...	1	6		7		
7	*Great* Falls, Va..............	2			12		
8	Laurel Hill, W. Va............	2	6				
0	Monroe Station, Mo..........	3			4	20	
	Rich Mt., Va. (Camp lost and						

DATE.	JULY, 1861.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P.M.	K.	W.	P.M.
	150 prisoners taken.)........	11	35		60	140	10
12	Barboursville, or Red House, Va......	1			10		
12	Beverly, W. Va...............						60
14	Carrick's Ford, W. Va........	13	40		20	10	5
16	Millsville, or Wentzville, Mo.	7	1		7		
17	Fulton, Mo....................	1	15				
17	Scarrytown, W. Va...........	9	38				
17	Martinsburg, Mo..............	1	1				
17	Bunker Hill, Va......				4		
18	Blackburn's Ford, Va........	19	38		15	53	
19	Harrisonville and Parkersville, Mo..................	1			14		
21	†Bull Run, or Manassas, Va...	481	1011	1460	269	1483	
22	Forsyth, Mo.................		5		5	10	
24	Blue Mills, Mo...............	1	12				
26	Lane's Prairie, near Rolla, Mo.		3		1	3	
27	Ft. Fillmore, New Mexico....			420			
	AUGUST.						
2	Dug Springs, Mo..............	4	37		40	44	
3	Messilla, New Mexico........	3	6		12		
5	Athens, Mo...................	3	8		14	14	
5	Point of Rocks, Md...........				3	2	
7	Hampton, Va.................				3	5	
8	*Lovettsville, Va..............				1	5	
10	*Wilson's Creek, Mo. (Gen. Lyon killed.)...............	223	721	291	205	300	3
11	Potosi, Mo....................	1			2	3	
14	Martial law declared at St. Louis, Mo..................						
17	Brunswick, Mo...............	1	7				
19	Charleston, or Bird's Pt., Mo.	1	6		40		
20	*Hawk's Nest, W. Va.........		3		1	3	
26	Cross Lanes, or Somerville, W. Va......................	5	40	200			
27	Ball's Cross Roads, Va.......	1	2				
28-9	*Ft. Hatteras, N. C...........	1	2		5	51	71
29	Lexington, Mo................				8		
31	Munson's Hill, Va............	2	2				
	SEPTEMBER.						
1	Bennett's Mills, Mo..........	1	8				
1	*Boone Court House, W. Va...*		6		30		
2	*Dallas, Mo.*.....................	2					
2	*Dry Wood, or Ft. Scott, Mo..*	4	9				
2	*Beher's Mills, Mo.*.............				3	5	
6	*Paducah, Ky., occupied by Union forces*..............						

DATE.	SEPTEMBER, 1861	CASUALTIES. UNION. K.	UNION. W.	UNION. M. P.	CONFED. K.	CONFED. W	CONFED. M. P.
10	Carnifex Ferry................	16	102				
11	Lewinsville, Va...............	6	8				
12	Black River, near Ironton, Mo.				5		
13	Cheat Mountain, W. Va.......	9	12			80	
13	Booneville, Mo...............	1	4		12	30	
14	Confed. privateer Judah destroyed near Pensacola, Fla.	3	15				
15	Pritchard's Mills, Va.........	1			8	75	
12–	20. †Lexington, Mo..........	42	108	1624	25	75	
17	Morristown, Mo...............	2	6		7		
17	Blue Hills, Mo................	11	39		10	60	
18	Banks of New Orleans suspend specie payment........						
18	Barbourville, W. Va..........	1	1		7		
21	†Ball's Bluff, Va. (Col. Baker killed.)......................	220	266	500	36	264	
22	Poppinsville, or Osceola, Mo.	17					
22	Elliott's Mills, Mo............	1	5				
23	*Romney, or Hanging Rock, W. Va.......................	3	50		35		
25	Chapmansville, W. Va........	4	9		20	50	
26	Lucas Bend, Ky......				4		
2[illegible]	Munson's Hill	9	25				
	OCTOBER.						
3	Grienbrier, W. Va	8	32		100	75	
4	Ft. Craig, New Mexico........				11	30	
4	Buffalo Hill, Ky..............	20			50		
8	Hillsboro, Ky.................	3	2		11	29	
9	Santa Rosa, Fla...............	14	29			350	
12	Cameron, Mo..................	1	4		8		
12	Upton Hill, Ky................				5	3	
12	Bayles Crossroads, La........		4				
13	Beckwith Farm, Mo..........	2	5		1	2	
13	West Glaze, Mo..............				62		
15	Big River Br'ge, nr. Potosi, Mo.	1	6	33	5	4	
15	Lime Creek, Mo..............				63	40	
16	Bolivar Heights, Mo..........	4	7				
16	Warsaw, Mo..................				3		
17–	21. Fr'd'ckst'n and I'nton, Mo.	6	60			200	
19	Big Hurricane Creek, Mo.....	2	14		14		
21	Bell's Bluff; called Edwards *Ferry, or Har*'sn's Ln'dg, Va.	223	226	445	36	264	
22	*Buffalo Mills, Mo*..............				17		
23	*West Liberty, Ky*.........		2		10	5	
[illegible]	*Hodgeville, Ky*................		3		3	5	
[illegible]	*Zagonyi's* ch'ge, Spr'gfield, Mo.	18	37		100		
[illegible]	*Romney*, or Mill Creek, W. Va.	2	15		20	15	

DATE.	OCTOBER, 1861.	CASUALTIES. UNION. K.	W.	M.–P.	CONFED. K.	W.	M.–P.
26	Saratoga, Ky		4		8	17	
27	Plattsburg, Mo				8		
27	Spring Hill, Mo		5				
29	Woodbury and Morgant'n, Ky.		1				
	NOVEMBER.						
1	Winfield Scott, Com. U. S. army, retired, and Maj.-Gen. Geo. B. McClellan app'nted..						
1	Renick, Randolph Co., Mo		14				
6	Little Santa Fe, Mo	2	6				
7	*Belmont, Mo	90	173	235	261	427	378
7	Galveston Harbor, Tex	1	8			3	
7	*Port Royal, S. C	8	23		11	39	
9	*Piketown, or Fry Mtn., Ky. (70 wagons, stores, and eq'p'gs.)	4	26		18	45	200
10	Guyandotte, W. Va	7	20		3	10	
10	Gauley Bridge, W. Va	2	16				
11	Little Blue, Mo	7	9				
12	Occoguan Creek, Va	3	1				
17	Cypress Bridge, Ky	10	15				
18	Palmyra, Mo				3	5	
19	Wirt Court House, W. Va				1	5	
19	Eng. packet Trent boarded by Capt. Wilkes, and Mason and Slidell captured. On the 24th inst. they were placed in Ft. Warren, Boston Harbor; released Jan. 1, 1862, on a demand of the British govt....						
23	Ft. Pickens, Pensacola, Fla	5	7		5	23	
24	Lancaster, Mo	1	2		13		
26	Little Blue, Mo	1	1				
26	Drainesville, Va				2		
29	Black Walnut Creek, Mo		15		17		
	DECEMBER.						
3	Salem, Mo	6	10		16	20	
3	Vienna, Va				1		
4	Anandale, Va	1			17		
4	Dunksburg, Mo.; citizens repulse raiders				7	10	
9	*Congress passed bill authoriz'g exchange of prisoners*						
10	*Shelling of Free Stone Point by Union gunboats*						
	Bertrand, Mo						
	Camp Allegheny, or Buffalo Mt., W. Va	20	10			20	96

DATE.	DECEMBER, 1861.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	P-M
17	Rowlett's Station, Ky	10	22		33	50	
18	*Milford, Blackwater, Mo	2	8				1300
20	Drainsville, Va	7	61			43	143
21	Hudson, Mo		5		10		
22	Wadesburg, Mo		2				
28	Sacramento, Ky	1	8		30		
28	Mt. Zion, Mo	5	63		25	150	
30	Banks of New York, Philadelphia, Albany, and Boston suspend specie payment						
	JANUARY, 1862.						
1	Port Royal, S. C	1	10				
4	Huntersville, Va		1		1	7	
4	Near Bath, Va	2	2			30	
4	Calhoun, Mo		10			30	
7	Blue Gap, near Romney, Va				15		
7	Jennie's Creek, Ky	3	1		6	14	
8	Charleston. Mo	8	16				
8	Dry Forks, W. Va		6		6		
8	Silver Creek, Mo	5	6			80	
9	Columbus, Mo	5					
10	Middle Creek, Ky	2	25		40		
19-	20. *Mill Springs, Ky. (Gen. Zolicoffer killed)	38	194		100	160	
22	Knob Noster, Mo	1					
29	Occoguan Bridge, Mo	1	4		10		
	FEBRUARY.						
1	Bowling Green, Ky	3	2				
6	*Fort Henry, Tenn		40		5	11	
8	Linn Creek, Va	1	1		8	7	
8	*Roanoke Island, N. C. (Surrender of Ft. Henry, Tenn., to Federal army	35	200		16	39	2527
10	Elizabeth City, N. C	3					
13	Blooming Gap, Va	2	5		13		
14	Flat Lick Fords, Ky				4	4	
14-	15, 16. *Ft. Donnelson, Tenn. (6 forts, 65 guns, and 17,500 small arms captured, and *13,829* Conf. w. and m.)	446	1735	150	231	1007	
17	*Pea Ridge, Mo*	5	9				
18	*Independence, Mo*	1	3		4	5	
21	*Ft. Craig, New Mexico*	62	140			150	
24	*Mason's Neck, Va*	2	1				
26	*Keytersville, Mo*	2	1		1		
	MARCH.						
2	*Pittsburg Landing, Tenn	5	5		20	20	

DATE.	MARCH, 1862.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	M.	K.	W.	M.
3	New Madrid, Mo	1	3				
5	Occoguan, Va	2	2				
6–	7, 8. *Pea Ridge, Ark	203	972	174	1100	2500	1600
7	Fox Creek, Mo		5				
8	Near Nashville, Tenn	1	2		4		
9	Mountain Grove, Mo	10	2				
9	Hampton Roads, Va	261	108		7	17	
10	Burke's Station, Va	1			3	5	
10	Jacksb'o, Big Creek Gap, Tenn.		2		2	4	
11	Paris, Tenn	5	5			10	
12	Lexington, Mo	1	1		9	3	
12	Near Lebanon, Mo				13	5	
13	New Madrid, Mo		50			100	
14	*Newberne, N. C	91	466		64	106	413
16	Black Jack Forest, Tenn		4				
18	Salem, or Spring River, Ark	5	10		100		
21	Mosquito Inlet, Fla	8	8				
22	Independence, Mo	1	2		7		
23	Carthage, Mo		1				
23	*Winchester, Va. (Gens. McIntosh, McCulloch and Slack killed)	103	440	24	80	342	269
26	Warrensburg, Mo	1	22		9	17	
26	Humonsville, Mo		5			15	
26–	27, 28. Near Santa Fe, N. M.	32	75	35	36	60	93
28	Warrensburg, Mo	3	1		15		
	APRIL.						
2	Putnam's Ferry, Mo				3		
4	Great Bethel, Va	4	10				
4	Crump's Landing, Tenn		2			20	
6-7	*Shiloh or Pittsb'g Ld'g, Tenn.	1735	7882	3950	1728	8012	959
8	*Island No. 10, Tenn. (6 forts captured)				17		6000
8	Near Corinth, Miss				15	25	200
9	Owens River, Cal	1	2				
10	*Ft. Pulaski, Ga	1				4	360
11	Huntsville, Ala						200
11	Yorktown, Va	2	8				
12	Little Blue River, Mo				5		
12	Monterey, Va		3				
14	*Pollocksville, N. C.*					7	
14	*Diamond Grove, Mo*		1				
14	*Walkersville, Mo*	2	3				
14	*Monta Vallo, Mo*	2	6		2	10	
15	*Pechach's Pass, Ariz*	3	3				
	Savannah, Tenn				5	65	
	Wilmington Island, Ga	10	35		5	7	

DATE.	APRIL, 1862.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P–M	K.	W.	P–M
16	Lee's Mills, Va................	35	129		20	75	50
17	Holly River, W. Va...........		3		2		
18	Falmouth, Va.................	5	16				19
18	Edisto Island, S. C............		3				
18–	28. Fts. Jackson and St. Phillip and the capture of New Orleans, La....................	36	193		185	197	400
1	Talbot's Ferry, Ark...........	1			3		
1	Camden. N. C.................	12	98		6	19	
23	Grass Lick, W. Va............	3					
25	Ft. Macon, N. C...............	1	11		7	18	450
26	Turnback Creek, Mo..........	1					
26	Neosha, Mo....................	3	3			30	62
26	Com. Farragut demanded the surrender of New Orleans..						
26	In front of Yorktown, Va......	3	16				
27	Norton's Mills, N. C........	1	6			3	
28	Paint Rock R.R. Bridge, Tenn.	7					
28	Cumberland Monntain, Tenn.						
28	Monterey, Tenn...............	1	3		5		
29	Bridgeport, Ala......				72		350
	MAY.						
	New Orleans capt'd by Union soldiers.....................						
1	Clarke's Hollow, West Va.....	1	21				
3	Farmington, Miss.............	2	12		30		
4	Licking, Mo...................	1	2				
4	Cheese Cake Church, Va......						
5	Lebanon, Tenn................	6	25				66
5	Lock Ridge Mills, Ky.........	4	16	68			
5	* Williamsburg, Va............	450	1400	372	1000		
7	West Point, Va................	40	104	41			
7	Somerville Heights, Va.......	2	7	24			
8	McDowell or Bull Pasture, Va.	28	225		100	200	
8	Corinth, Miss......	1	4		30		
9	Elk Station, Ala..............	5		43	16		
9	New Kent C. H., Va...........	4	3		10	14	
10	Port Pillow, Tenn.............		3		2	1	
10	Surrender of Norfolk, Va.....						
10	Gen. Butler captured $800,000 in Gold at New Orleans.....						
11	*Bloomfield, Mo.*...............			1			
13	*Monterey, Tenn.*..............		2		2	3	
15	*Linden, Va.*...................	1	3	14			
15	*Fort Darling,* James River, Va.	12	14		7	8	
15	*Clalk Bluff,* Mo...............	1	3				
15	*Butler,* Bates Co., Mo.........	3	1				

DATE.	MAY, 1862.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P.-M.	K.	W.	P.-M.
15–8	Princeton, West Va	30	70		2	14	
17	Corinth, Miss	10	39		12		
19	Searcy Landing, Ark	18	17		150		
19	Clinton, N. C.		5		9		
21	Phillips Creek, Miss		3				
22	Florida, Mo		2				
22	Near Newberne, N. C.	3	8				
23	Louisburg, Va	14	60		40	60	10
23	Front Royal, Va	32	122	750			
23	Backton Station, Va	2	6		12		
23	Ft. Craig, New Mexico		3				
24	New Bridge, Va	1	10		60		2
24	Chickahominy, Va	2	4				
25	†Winchester, Va. (Fed. retr'd.)	38	155	711			
27	Hanover Court House, Va	53	344		200		73
27	Big Indian Creek, Ark		3		5	25	
27	Osceola, Mo	3	2				
28	Wardensville, Va				2	3	
29	Pocotaligo, S. C	2	9				
30	Booneville, Miss						200
30	Front Royal, Va	5	8				15
30	*Corinth, Miss						
31	Neosho, Mo	2	3				
31	Near Washington, N. C		1		3	2	
31	And						
	JUNE.						
1	†Seven Pines and Fair Oaks, Va	800	3627	1222	2800	3807	130
2	Strasburg, Va		2				
3	Legare's Point, S. C		5				
4	Jasper, Tenn	2	7		20	20	
4	Blackand, Miss	5	14				
5	Tranter's Creek, N. C	7	11				
6	Memphis, Tenn. (Memphis surrenders)				80	80	10
6	Harrisonburg, Va			63	17	50	
8	†Cross Keys, Va	125	500		42	230	
9	†Port Republic, Va	67	364	574	88	335	3
10	James Island, S. C	3	13		17	30	
11	Monterey, Ky	2					10
12	Waddell's Farm, Ark	12			26		
13	Old Church, Va				1		
13	James Island, S. C	3	19		19	6	
14	Turnstall Station, Va	4	8				
16	Ft. Johnson, James Isl'd, S. C.	85	472	128	51	144	
17	*St. Charles, Ark*	105	30			155	
17	*Warrensburg, Mo*	2	2				

DATE.	JUNE, 1862.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	P-M
17	Smithville, Ark.	2	4			4	15
18	Williamsburg Road, Va	7	57		5	9	
21	Battle Creek, Tenn	4	3				
22	Raceland, La	3	8				
23	Raytown, Mo.	1	1				
25	Oak Grove, Va.	51	401	64	65	495	11
25	Germantown, Tenn.	10					
25	Little Red River, Ark.		2				
26	*Chickahominy, Va.	80	150		1000		
27	†Gaines Mills, Va.	7500	k w	& m	7500	k w	& m
26–	29. U. S. fleet under Com. Farragut; no casualties rec'rd'd.						
26	to July 1. *Malvern Hill, Va.	1000	k w	& m	5000	k w	& m
	President Lincoln calls for 600,000 men. The seven days' retreat of the Army of the Potomac under Gen. Geo. B. McClellan; total casualties in the various engagements were: 1st corps	253	1240	1581			
	2d corps	187	1076	848			
	3d corps	189	1051	833			
	4th corps	69	507	201			
	5th corps	620	2460	1198			
	6th corps	245	1313	1179			
	Engineer's corps		2	21			
	Total	1582	7709	5958			
	Total casualties in Confed. divisions were 14,011 w.				2820		75
	JULY.						
1	Booneville, Miss.	45			17	65	
1	Morning Sun, Texas		4		11	26	
3	Elvington Heights, Va.	8	32		100		
6	Grand Prairie, Ark.	1	21		84		
7	Bayou Cache, La.	7	57		110	200	
8	Black River, Mo.	1	3				
9	Hamilton, N. C.	1	20				
9	Aberdeen, Ark.						
9	Thompkinsville, Ky.	4	6		10		
11	Williamsburg, Va.				3		
11	Pleasant Hill, Mo.	10	19		6	5	
12	Lebanon, Ky. (Morgan's raid).	2		65			
12	Near Culpepper, Va.				1	5	
13	Murfreesboro, Tenn.	33	62	800	50	100	
14	Batesville, Ark.	1	4				
15	Apache Pass, Ariz.		1				
15	Fayetteville, Ark.						15

DATE.	JULY, 1862.	CASUALTIES. UNION K.	UNION W.	UNION P-M	CONFED. K.	CONFED. W.	CONFED. P-M
15	Decatur, Tenn................		4				
17	Cynthiana, Ky. Morgan's raid. Postage stamps made legal tender........................	17	34		8	29	
18	Memphis, Mo.................	13	35		23		
18	Guerrilla campaign in Mo. to Sept. 20. (Morgan's guerrillas scattered).............	77	156	347	500	1800	560
23	Florida, Mo....................		22		3		
23	Columbus, Mo..................		2				
24	Trinity, Ala.....................	2	11		12	30	
24	Near Florida, Mo..............	1	2		1	12	
25	Courtland Bridge, Mo.........			100			
26	Young's Crossroads, N. C.....		7		4	13	
28	Moore's Mills, Mo............	19	21		30	100	
29	Brownsville, Tenn............	4	6		4	6	
30	Paris, Ky.......................				27	39	
31	Coggin's Point, Va............	10	15		10	6	
	AUGUST.						
1	Newark, Mo..................	4	4	60	73		
2	Orange Court House, Va......	4	12		12		52
2	Clear Creek, Mo..............	5	14		11		
3	Languelle Ferry, Ark..........	17	38				
4	President Lincoln ordered 300,000 men to be drafted.......						
4	Sparta, Tenn..................					10	23
5	*Baton Rouge, La. (Gen. Williams killed)................	82	255	34	84	316	76
5	Malvern Hill, Va.............	3	11				100
6	Kirksville, Mo................	28	60		128	200	
6	Thornburg, Va................	2	12	72			
6	Tazewell, Tenn...............	3	23	50	9	40	
7	Trenton, Tenn................				30	20	
9	Stockton, Mo..................				13	30	
9	*Cedar Mountain, Va. (Conf. repulsed)......................	450	660	290	229	1047	31
9	Nucces River, Tex............	40			8	14	
1	to 13. Grand River skirmishes, Mo. Total.................	100					
11	Independence, Mo............	14	18	312			
12	Gallatin, Tenn............. ..	30	50	200	6	18	
13	*Clarendon, Ark.*...............						700
15	*Merriweather's Ferry, Tenn*..	3	6		20		
16	*Lone Jack, Mo*................	60	100		110		
19	*Clarksville, Tenn*............			200			
20	*Edgefield Junction, Tenn*.....	8	18				
22	†*Gallatin, Tenn.* (Gen. John-						

DATE.	AUGUST, 1862.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	P-M
	son captured)	64	100	200	110	k	& w
23	Big Hill, Madison Co., Ky	10	40		25		
23	Waterloo Bridge, Va				37	94	
23	Pope's campaign in Va. to Sept. 1. Army of Virginia	7000			1500		8000
25-6	Ft. Donnelson, Tenn	31			30		
27	*Bull Run and Kettle Run, Va.	300			300		1000
28-9	*Groverton and Gainesville, Va. Army of Potomac losses in all corps	7000			12000	k w	& m
29	Manchester, Tenn				100		
30	†Second Battle of Bull Run, or Manassas, Va	800	4000	3000	700	3000	
30	Bolivar, Tenn	5	18	64	100		
30	†Richmond, Ky	200	700	4000	250	500	
31	Medow Station, Tenn	3	13	43			
	SEPTEMBER.						
1	Britton's Lane, Tenn	5	51	52	179	100	
1	†Chantilly, Va. McDowell's corps, Hooker and Kearney's Div. of 3d corps, and Reno's corps. (Gens. Kearney and Stearns, Federals, killed	1300			800		
6	Washington, N. C	8	36		30	100	
9	Columbus, Tenn				18	45	
10	Cold Water, Miss				4	80	
10	Fayetteville, W. Va	13	80				
12-	15. Harper's Ferry, Va. 11583 Union prisoners taken	80	120		500		
14	*South Mountain, Md. (Gen. Reno killed)	443	1800		900	2344	1500
14-6	†Mumfordsville, Ky	50		3566	715		
15	Harper's Ferry surrenders 11,500 Federals						
17	*Antietam, or Sharpsburg, Md. Total loss in all corps	2010	9416	1043	3500	16399	6000
19-	20. *Iuka, Miss	144	598		263	692	501
20	Blackford's Ford, Va	92	131	103	33	231	
22	Emancipation Proclamation issued						
30	Newtonia, Mo	50	80	115	220	280	
	OCTOBER.						
1	*Shepherdstown, Va*		12		60		
3-4	*Corinth, Miss*	315	1812	232	1423	5692	2248
5	*Metamora, Miss*	500			400		
7	*La Vergne, Tenn*	3	9		80		1
8	**Perryville, Ky*	916	2943	489	2500		

DATE.	OCTOBER, 1862.	CASUALTIES. UNION. K.	UNION. W.	UNION. P–M	CONFED. K.	CONFED. W.	CONFED. P–M
10	Harrodsburg, Ky.						1600
17	Lexington, Ky.	4	24	350			
18	Morgan, the raider, dashed into Lexington and captured 125 prisoners.						
22	Maysville, Ark.						
22	Pocotaligo, S. C.	43	258		14	102	
	NOVEMBER.						
1	Artillery fight at Philmont, Va.						
3	Reconnoisance at the base of Blue Ridge Mts. Confederates literally driven into the river and drowned by scores.						
3	Harrisonville, Mo.	10	3		6	20	
4	Galveston, Texas, surrendered						
5	Nashville, Tenn.		26				23
6	Garretsburg, Ky.				17	85	
7	Big Beaver Creek, Mo.			300			
8	Hudsonville, Miss.				16		185
21	Gen. Sumner demands surrender of Fredericksburg, Va.						
24	Beaver Creek, Mo.	6	10		5	20	
28	Crane Hill, Boonesboro, Ark.	4	36		75	300	
28	Hartwood Church, Va.	4	9	200			
	DECEMBER.						
4	Winchester, Va., captured by Union soldiers						
5	Coffeeville, Miss.	10	54		7	43	
7	Fayetteville, Ark.	167	798	183	300	1200	
7	Hartsville, Tenn.	55		1800	21	114	
9	Dobbin's Ferry, Tenn.	5	48				
12–8	Goldsboro expedition, N. C.	90	478		71	268	400
13	† Frederickburg, Va., Army of the Potomac.	1180	9028	2145	579	3870	127
14	Kingston, N. C.	40	120		50	75	400
18	Lexington, Tenn.	7	10	124	7	28	
20	Holly Springs, Miss.			1000			
21	Davis Mills, Miss.		3		22	50	
28–9	† Chicasaw Bayou, Vicksburg.	191	982	756		207	
30	Red Mound, Tenn.	23	139	58	50	150	300
31	To						
	JANUARY, 1863.						
1	**Murfreesboro*, or Stone River, Tenn., Army of Cumberland.	1533	7245	2800	1456	0	
1	*Galveston, Tex.*	600			50		
8	*Springfield, Mo.*	14	144		4	200	
11	**Ft. Hindman, Ark.*	129	831		100	400	5000

DATE.	FEBRUARY, 1863.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	P-M
3	Ft. Donnelson, Tenn..........	16	60	50	140	400	130
	MARCH.						
5	Spring Hill and Unionville, Tenn......................	100	300	1306	150	450	
14	Port Hudson, La...............		65				
17	Kelly's Ford, Va...............	9	35		11	88	
20	Vaught's Hill, Tenn..........	7	48		63	300	
30	Dutton's Hill, or Somerset, Ky.	10	25		200		
	APRIL.						
7	Bombardment of Ft. Sumter, by South Atlantic squadron.	2	20		4	10	
10	Franklin and Harpeth River, Tenn......................	100			19	35	85
12-4	Irish Bend, or Indian Ridge. La........................	350				400	2000
16	Siege of Suffolk, Va..........	44	202		500		400
26	Cape Girardeau, Mo..........	6	6		60	275	
27	Streight's raid from Tuscumbia, Ala., to Rome, Ga......	12	69	1466			
29	Fairmount, W. Va......... ...	1	6		100		
30	Spottsylvania Court House, Va	58					
	MAY						
1	Port Gibson, Miss............	130	718		1150		500
1	La Grange, Ark...............	2000	k w	& m			
1-4	*Chancellorsville, Va.........	1512	9518	5000	1581	8700	2000
2	†Fredericksburg, Va..........	2000					
11	Horse Shoe Bend, Ky........	10	20	40	100		
12	Raymond, Miss...............	60	341		909		
14	*Jackson, Miss.......	40	240		450		
16	*Champion Hills, Miss. (20 cannon captured)...........	426	1842	189	2500		1800
17	*Big Black River, Miss. (17 cannon captured)...........	29	242		600		2500
18	to 22. †Siege of Vicksburg, by Gen. Grant and Porter's gunboat fleet. (31,277 Con. killed, wounded and miss'ng	545	3688	303			
27	to July 9. Siege of Port Hudson, La......................	500	2500		100	700	6408
	JUNE.						
4	Franklin, Tenn...............	25			200		
6-8	*Milliken's Bend, La. Colored regm'ts. No quarters shown.	154	223	115	125	400	200
9	*Monticello and Rocky Gap, Ky*	4	26		20	80	
9	*Bevery Ford and* Brandy Station, Va. Cavalry fight.....	500			700		
13-5	†*Winchester, Va*.............	3000			850		

DATE.	JUNE, 1863.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P–M.	K.	W.	P–M.
14	Martinsburg, Va.			200	1	2	
17	Aldie, Va. Kilpatrick's cavalry	24	41	89		100	
20–1	La Forche Crossing, La.	8	40		53	150	
21	Upperville, Va.		94		20	100	60
23	Brashearn City, La.	46	40	300	3	18	
23	to 30. *Rosenkranz's campaign from Murfreesboro to Tallahoma, Tenn.	85	462		1634		
28	Donaldsonville, La.				39	112	150
30	Hanover, Penn.	12	43			75	60
	JULY.						
1–3	* Gettysburg, Pa., Army of the Potomac. Decisive battle of the war.	2834	13709	6643	3500	14500	13621
1–	26. Morgan's raid into Kentucky, Indiana and Ohio.	22	80	790	86	385	3000
4	*Helena, Ark.	57	117	32	173	687	776
4	Vicksburg surrenders						
4–5	* Bolton and Birdway Ferry, Miss. (rear guard of Johnston's army)						2000
5	Smithburg, Md.	30			30		100
5	Lebanon, Ly	9	15	400	3	6	
8	* Port Hudson surrenders						5500
9–	16. †Jackson, Miss.	100	800	100	71	504	764
10–	Sept. 6. Siege of Fort Wagner, Morris Island, S. C.	1757			501		
13	Yazoo, City, Miss.						250
13	Donaldsonville, La.	450					
13–	15. Draft riots in N. Y. City.	1000					
14	Falling Waters, Md.	29	36		125		1500
14	* Bristow Station, Va.	51	329		1200		800
16	Sheppardtown, Va.				25	75	
17	Honey Springs, Indian Ter.	17	60		150	400	
17	Wytheville W. Va.	17	61		75		125
21–3	Manassas Gap and Chester Gap, Va.	35	102		300		
	AUGUST.						
1-3	Rappahannock, Station, Va.	16	134				
3	Jacksonville, La.	2	2	27			
9	Sparta, Tenn.	6	25				
20	Lawrence, Kas., burned						
21	*Massacre* at Lawrence, Kas.	140	24		40		
26	*Rocky* Gap, Va.	16	113		150		
25	*to 31.* Brownsville Bayou, Ark	13	72				
	SEPTEMBER.						
8	*Night* attack on Ft. Sumter	3			114		

DATE.	SEPTEMBER, 1863.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P.-M.	K.	W.	P.-M.
9	Cumberland Gap, Tenn.......						2000
13	Culpepper, Va	3	40		10	40	75
19	and 20. Chickamauga, Ga. Army of Cumberland; 13,412 Confed. wounded...........	1644	9262	4945	2389		2003
22	Blountsville, Tenn............	5	22		15	50	100
29	Near Morganzia, La..........	14	40	400			
	OCTOBER,						
11	Henderson's Mills, Tenn......		11		30		
12-3	Ingham's Mills and Wyatt's, Miss	45			50		
13	Culpepper and White Sulphur Springs, Va................	8	46				
14	Auburn, Va....................	11	42		8	24	
14	Bristol Station, Va...........	51	329		750		150
15-8	Canton, Brownsville, and Clinton, Miss..................				200		
17	President Lincoln calls for 300,000 more men..........						
18	Charlestown, W. Va..........	12	13	379			
21	Cherokee Station, Ala........	7	37		40		
25	Pine Bluff, Ark..............	11	27		53	164	
26	Cane Creek, Ala..............	2	6		10	30	
27	Wauhatchie, Tenn............	76	339		300	1200	
	NOVEMBER.						
3	Grand Cateau, La............	26	124	570	60	320	65
3-4	Colliersville & Moscow, Tenn	7	57			100	
6	Rogersville, Tenn............	5	12	650	10	20	
6	Droop Mountain, Va..........	31	94		50	250	100
7	Rappahannock Station, Va...	370			11	98	1627
11	Natchez, Miss................	4	6		4	8	
14	Huff's Ferry, Tenn............	100					
14	Maysville, Tenn.............	100					
16	Campbell's Station, Tenn....	60	340		570		
17	to Dec. 4. Siege of Knoxville, Tenn. Army of the Ohio....	20	80		80	400	300
23-5	*Chattanooga, Tenn., Lookout Mt., and Mis'y Ridge, Army of the Tennessee.....	757	4529	330	361	2181	6141
26-8	Operations at Mine Run, Va., Army of the Potomac.......	100	400		100	400	
27	Cleveland, Tenn..............						200
25	*Ringgold and Taylor's Ridge, Ga.........................	68	351		50	200	230
	DECEMBER.						
10-4	Bean's Sta. and Morristown, Tenn.........................	700			932		14

DATE.	DECEMBER, 1863.	CASUALTIES.					
		UNION			CONFED.		
		K.	W.	P–M	K.	W.	P–M
19	Barran Fork, Ind. Ter.........				50		
28	Charleston, Tenn..............	2	15		8	39	21
30	St. Augustine, Fla............	4					
	JANUARY, 1864.						
1	London Heights, Va..........	29		41	4	10	
3	Jonesville, Va...........	12	48	300	4	12	
13	Mossy Creek, Tenn				14		
16–7	Dandridge, Tenn..............		150				
23	Rolling Prairie, Ark...........	11					
24	Taswell, Tenn.................				31		
27	Kelly's Ford, Tenn.............	100			65		
29	Medley, W. Va.................	10	70			100	
	FEBRUARY.						
1–3	Newberne, N. C......	16	50	250	5	30	
1	March 8. Yazoo River exp'd'n	35	121		35	90	
3–	March 5. Expedition from Vicksburg to Meridian, Miss.	50	138	105	503		212
5	Qualltown, N. C...............	3	6				50
6	Morton's Ford, Va............	10	201				100
9	Morgan's Mills, Ark...........	1	4		65		
10–	25. Smith's raid from Germantown, Tenn., into Miss..	43	267			50	300
14–5	Waterproof, La. Col'd troops.	8	14		15		
20	Olustee or Silver Lake, Fla...	193	1175	400	100	400	
22	Mulberry Gap, Tenn..........	13		256			
25–7	Buzzard Roost, Ga	17	272		20	120	
28–	March 4. Kilpatrick's raid from Stephensburg to Richmond, Va.	330			308		
	MARCH.						
1	Burton's Ford, Va............	10					30
9	Suffolk, Va....................	8	1			25	
17	Manchester, Tenn............				21		
17	Gen. Grant assumes command of all the armies of the U. S.						
21	Henderson Hills, La..........		1		8		250
25	Ft. Anderson, Ky.............	14	46		10	40	
26	to 30. Longview and Mt. Elba, Ark..........................	4	18		12	35	300
31	Near Snydersville, Miss......	16	3		3	7	
	APRIL.						
2	*Spooneville, Ark.............*	10	33		100		
3	*Okalona, Ark.................*	16	74		85		
5	*Roseville, Ark...............*	19	11		15	25	11
7	*Wilson's Farm, La............*	14	39		15	40	10
8–9	*Sabin Cross Roads and Pleasant Hills, La................*	300	1600	2100	600	204	
10–3	*Prairie di Ann, Ark..........*	100			50		

DATE.	APRIL, 1864.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P.-M.	K.	W.	P.-M.
12	Pleasant Hill Landing, La....		7		200		
15	and 16. Liberty P.O. and occupation of Camden, Ark	255					
17	to 20. †Plymouth N. C.......	20	80	1500	500		
18	Poison Springs, Ark...........	113	88	68			
23	and 24. Moneti's Bluff, La....	350			400		
24	Mark's Mills, Ark.............	100	250	100	110	228	40
30	Jenkin's Ferry, Ark...........	200	955		300	300	
	MAY.						
1-8	Hudnot's plantat'n, near Alexandria, La...................	33	87		25	100	
5-7	Battle of the Wilderness, Va. Army of the Potomac.......	5597	21463	10677	2000	6000	3400
6	Gen. Sherman begins his Atlanta campaign.............						
5-9	Rocky Face Ridge, Ga. Army of the Cumberland..........	200	637		600		
6-7	Chester Station, Va...........	48	250		50	200	
8	Todd's Tavern, Va............	40	150		30	150	
8-	18. Spottsylvania, Fredericksburg Road, Army of the Pomac. (2 Confederate generals and 30 guns captured).......	4177	10687	2577	1000	5000	3000
9-	10. Swift Creek, Va..........	90	400				500
9-	10. Cloyn's Mountain, Va.....	126	585		699		300
9-	13. Sheridan's cavalry raids in Virginia.............	50	174	200			100
12-6	Drury's Bluff, Va..............	422	2383	210	400	2000	100
13-6	* Resaca, Ga	600	2147		300	1500	1000
15	Newmarket, Va...............	120	500	240	85	320	
16	to 30. Bermuda Hundred, Va.	200	1000		3000		
18	Calhoun Station, La...... ..	60	300		500		
23-7	North Ann River, Va...... .	223	1400	290	2000		
25	to June 4. *Dallas, Ga. Army of the Cumberland..........	2400			3000		
26-9	Decatur, Ala..................	48			60		
27-8	Hanoverton, Va...............	25	119	200	475		
30	Ashland, Va..................	26	130				
	JUNE.						
1-12	†Cold Harbor, Va.: 10,570 Fed. *wounded*.........	1995		2450	1200		500
5	*Piedmont, W. Va*............	130	650		400	1450	1060
6	*Lake Chicot. Ark*............	40	70		100		
9	*Mount Sterling, Ky*..........	35	150		50	200	250
9-30	*Kenesaw Mountain, Army of the Cumberland*...........	1370	6500	800	1100		35
10	*Brice's Cross Roads, Miss*....	223	394	1623	131	475	

DATE.	JUNE, 1864.	CASUALTIES. UNION. K.	UNION. W.	UNION. P–M	CONFED. K.	CONFED. W.	CONFED. P–M
11	Cynthiana, Ky	150			300		400
11	and 12. Trevillian Sta., Va	85	490	160	100		370
15	Malvern Hill	25	3				
15–9	†Petersburg, Va., Army of the James	1398	7474	1814	200		
17	and 18. Lynchburg, Va	100	500	100			
19	Alabama sunk off Charbourg, France, by the Kearsage						
20	to 30. In front of Petersburg, Va	112	506	800			
22–3	Jerusalem Plank road, Va. Army of the Potomac	604	2494	2117		300	200
22	to 30. ‡Wilson's raid on the Weldon railroad, Va	92	317	734	365		
23–4	Jones' Bridge, Va	54	235	300	250		
25–9	Clarendon, St. Charles river, Ark		200			200	200
28	Confederates move on Washington by way of the Shenandoah Valley, Va						
	JULY.						
1	to 31, In front of Petersburg, Va., Deep Bottom, Newmarket and Malvern Hill	898	4060	3110	400	600	200
2–5	Smyrna, Ga	60	310		100		
3–9	Expedition from Vicksburg to Jackson, Miss		150			200	
5–18	Smith's expedition from La Grange, Tenn., to Tapola, Miss	85	567		110	600	
6–10	Chattahoochee river, Ga. Army of the Ohio	80	450	200			
9	Monocacy, Md	90	579	1200		400	
12	Ft. Stephens, Washington, D.C	54	319		500		
18	Ashby's Gap, Va	200					
19	20. Winchester, Va	37	175			300	200
20	*Peachtree Creek, Ga	300	1310		1113	2500	0083
22	*Atlanta, Ga. (McPherson k'ld)	500	2141	1000	2482	4000	2017
24–4	Kernstown and Winchester	1200			600		
26–	31. Stoneman's raid to Macon	100		990			
26–	31. McCook's raid to Lovejoy Station, Ga	100	500				
28	*Atlanta, Ga,* Second sortie at *Ezra Chapel*	100	600		642	4000	[illegible]
	AUGUST.						
1–31	*In front of Petersburg, Va.*	87	484				
5–23	**Ft.* Gaines, Mobile Harbor,						

DATE.	OCTOBER, 1864.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	P-M
	Ala. (100 drowned by sinking of the Tecumseh. 150 guns captured)	75		170			2144
7	Morefield, Va	9	22		100		400
9	Explosion at City Point, Va	70	130				
14–8	Strawberry Plains, Va	400	1755	1400		1000	
16	Front Royal, Va	13	58		30	150	300
18	19, 21. *Six Mile House, Weldon R. R. (Railroad cap'd).	212	1155	3176		2000	2000
21	Summitt Pt., Berryville, and Flowing Springs, Va	600			400		
25	Smithville and Kearneysville, Va	20	60	100	300		
25	Ream's Station, Va	127	546	1709	1500		
29	Smithfield, Va	10	90		200		
31	And						
	SEPTEMBER.						
1	Jonesboro, Ga	1149			200		
1–8	Rosseau's pursuit of Wheeler in Tennessee	10	30		300		
10	Oct. 30. In front of Petersburg, Va. Army of the Pot'c	170	820	812		1000	
2	*Fall of Atlanta, Ga						200
3–4	Berryville, Va	30	182	100	25	100	79
4	Greenville, Tenn		6		10	60	75
16	Sycamore Church, Va	400			50		
19-	22. *Winchester and Fisher's Hills, Va. 2d Div. 19th corps under Sheridan. (Con. Gens. Rhodes and Gordon killed).	693	4033	623	3259		3600
23	Athens, Ala			950	5	25	
26-7	*Pilot Knob, or Ironton, Mo	28	56	100	1500		
27	Massacre by Price, Mo	122	2				
28-	30. Newmarket Heights, or Laurel Hill, Va	400	2029		2000		
30	And OCTOBER.						
1	Poplar Springs Church, Va	141	788	1750		800	100
2	Waynesboro, Va	50					
2	Saltville, Va	54	190	104	18	71	21
5	Allatoona, Ga	142	352	212	231	500	411
7-13	Darbytown Road, Va	105	502	206	1100		350
13	Strasburg, Va	30	144	40			
13	Dalton, Ga. *Troops under Col. Johnson*			400			
15	*Glascow, Mo*		400		50		
19	**Cedar Creek, Va, (Sheridan's ride)*	588	3516	1891	3000		12

DATE.	JUNE, 1864.	CASUALTIES. UNION. K.	UNION. W.	UNION. P-M	CONFED. K.	CONFED. W.	CONFED. P-M
11	Cynthiana, Ky................	150			300		400
11	and 12. Trevillian Sta., Va	85	490	160	100		370
15	Malvern Hill..................	25	3				
15-9	†Petersburg, Va., Army of the James......................	1398	7474	1814	200		
17	and 18. Lynchburg, Va......	100	500	100			
19	Alabama sunk off Charbourg, France, by the Kearsage...						
20	to 30. In front of Petersburg, Va..........................	112	506	800			
22-3	Jerusalem Plank road, Va. Army of the Potomac........	604	2494	2117		300	200
22	to 30. ‡Wilson's raid on the Weldon railroad, Va........	92	317	734	365		
23-4	Jones' Bridge, Va............	54	235	300	250		
25-9	Clarendon, St. Charles river, Ark..........................		200			200	200
28	Confederates move on Washington by way of the Shenandoah Valley, Va.........						
	JULY.						
1	to 31, In front of Petersburg, Va., Deep Bottom, Newmarket and Malvern Hill...	898	4060	3110	400	600	200
2-5	Smyrna, Ga	60	310		100		
3-9	Expedition from Vicksburg to Jackson, Miss..............		150			200	
5-18	Smith's expedition from La Grange, Tenn., to Tapola, Miss.......................	85	567		110	600	
6-10	Chattahoochee river, Ga. Army of the Ohio................	80	450	200			
9	Monocacy, Md................	90	579	1200		400	
12	Ft. Stephens, Washington, D.C	54	319		500		
18	Ashby's Gap, Va..............	200					
19	20. Winchester, Va...........	37	175			300	200
20	*Peachtree Creek, Ga.........	300	1310		1113	2500	0083
22	*Atlanta, Ga. (McPherson k'ld)	500	2141	1000	2482	4000	2017
24-4	Kernstown and Winchester..	1200			600		
26-	31. Stoneman's raid to Macon	100		990			
26-	31. McCook's raid to Lovejoy Station, Ga............	100	500				
28	*Atlanta, Ga,* Second sortie at *Ezra Chapel*..............	100	600		642	4000	[illegible]
	AUGUST.						
1-31	*In front* of Petersburg, Va...	87	484				
5-23	**Ft.* Gaines, Mobile Harbor,						

DATE.	OCTOBER, 1864.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	P-M
	Ala. (100 drowned by sinking of the Tecumseh. 150 guns captured).............	75		170			2144
7	Morefield, Va.................	9	22		100		400
9	Explosion at City Point, Va...	70	130				
14–8	Strawberry Plains, Va........	400	1755	1400		1000	
16	Front Royal, Va..............	13	58		30	150	300
18	19, 21. *Six Mile House, Weldon R. R. (Railroad cap'd).	212	1155	3176		2000	2000
21	Summitt Pt., Berryville, and Flowing Springs, Va.........	600			400		
25	Smithville and Kearneysville, Va........................	20	60	100	300		
25	Ream's Station, Va...........	127	546	1709	1500		
29	Smithfield, Va................	10	90		200		
31	And						
	SEPTEMBER.						
1	Jonesboro, Ga................	1149			200		
1–8	Rosseau's pursuit of Wheeler in Tennessee................	10	30		300		
10	Oct. 30. In front of Petersburg, Va. Army of the Pot'c	170	820	812		1000	
2	*Fall of Atlanta, Ga..........						200
3–4	Berryville, Va................	30	182	100	25	100	79
4	Greenville, Tenn.............		6		10	60	75
16	Sycamore Church, Va.........	400			50		
19–	22. *Winchester and Fisher's Hills, Va. 2d Div. 19th corps under Sheridan. (Con. Gens. Rhodes and Gordon killed).	693	4033	623	3259		3600
23	Athens, Ala....................			950	5	25	
26–7	*Pilot Knob, or Ironton, Mo..	28	56	100	1500		
27	Massacre by Price, Mo........	122	2				
28–	30. Newmarket Heights, or Laurel Hill, Va.............	400	2029		2000		
30	And OCTOBER.						
1	Poplar Springs Church, Va...	141	788	1750		800	100
2	Waynesboro, Va..............	50					
2	Saltville, Va..................	54	190	104	18	71	21
5	Allatoona, Ga.................	142	352	212	231	500	411
7–13	Darbytown Road, Va.........	105	502	206	1100		350
13	Strasburg, Va................	30	144	40			
13	Dalton, Ga. *Troops* under Col. *Johnson*....................			400			
15	*Glascow, Mo*..................		400			50	
19	***Cedar Creek, Va, (Sheridan's** *ride)*.....................	588	3516	1891	3000		1

DATE.	OCTOBER, 1864.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	P-M	K.	W.	P-M
27	†Hatcher's Run, Va.	156	1047	609	206	600	20
27-8	Fair Oaks, Va.	120	783	400	60	311	8
29	Beverly, W. Va.	8	25	13	17	27	9
	NOVEMBER.						
9	Atlanta, Ga.				20		
12	Newton and Cedar Spring, Va		84	100			15
13	Ball's Gap, Tenn.	5	36	200			
18	Myerstown, Va.	60			10		
22	Griswoldville, Ga.	10	52		50	200	40
26	Saundersonville, Ga.			100			10
26-9	Sylvan Grove, Ga.	46			600		
29-	30. *Spring Hill and Franklin, Tenn.	189	1033	1004	1750	3800	70
30	Honey Hill, or Grahamsville, S. C.	66	645				
	DECEMBER.						
1	Stony Creek Station, Va.		40				17
1-14	*In front of Nashville, Tenn.	16	100				
1-31	In front of Petersburg. Army of the Potomac.	40	329				
4	Block House No. 7, Tenn.		100		100		
5-8	Murfreesboro, Tenn.	30	175				19
6-9	Deveaux's Neck, S. C.	39	300	200	400		
8-9	Hatcher's Run, Va.	125					
10-	21. Siege of Savannah, Ga.		200				80
12-	21. Stoneman's raid, Bean's Sta., Tenn., to Saltv'le, Va.	20	123		8	126	50
13	*Ft. McAllister, Ga.	24	110				25
15-7	Nashville, Tenn.	400	1740				446
17	Franklin, Tenn. Wilson's cav. Wounded and sick captured						180
25	†Ft. Fisher, N. C.	8	38		3	55	28
28	Egypt Station, Miss.	23	88				50
	JANUARY, 1865.						
2	Franklin, Miss.	4	9		20	30	
13-5	*Ft. Fisher, N. C.	184	749		400		208
16	Explosion of magazine at Ft. Fisher, N. C. (Fort and 72 guns captured)	25	66				
25	To Feb. 9. Combahee River, S. C.	138					
	FEBRUARY.						
5-7	*†Dabney's Mills, Hatcher's Run, Va.*	232	1062	186	1200		
8-14	*Williston, Blackville, and Aiken, S. C. Kilpatrick's cav.*				200		
o	*James Island, S. C.*	20	76		20		70

DATE.	FEBRUARY, 1865.	CASUALTIES.					
		UNION.			CONFED.		
		K.	W.	M—P	K.	W.	M—P
18–	22. Ft. Anderson, N. C.	40	204		70	400	375
27–	March 25. Sheridan's raid in Virginia	35					1667
	MARCH.						
8–10	Wilcox Bridge, N. C.	80	421	600	1500		
16	Averysboro, N. C.	77	477		108	540	217
19–	21. *Bentonville, N. C., Kilpatrick's cavalry	191	1086	287	267	0	1625
22–	April 24. Wilson's raid from Chickasaw, Ala., to Macon.	63	345	63	22	38	6766
25	Ft. Stedman, in front of Petersburg, Va.	68	337	506	800		1881
25	Assault of 2d and 6th corps	103	864	209			834
26–	April 9. Siege of Mobile, Ala., including Spanish fort and Port Blakely	213	1211		500		2952
29	Quaker Road, Va.	55	300		135	400	100
31	Boydton and White Oak Roads	177	1034	556		1000	235
31	Dinwiddie Court House, Va.	67	354		400		
	APRIL.						
1	*Five Forks, Va. All of Lee's artillery captured)	124	706		3000		5500
2	Fall of Petersburg, Va.	269	2565	5000			3000
3	Fall of Richmond. 6,000 Con. prisoners taken, of whom 5,000 were sick and wounded						
5	Amelia Springs, Va.	20	96				
6	Sailor's Creek, Va.	166	1014		1000		6000
7	Farmville, Va.	655					
8–9	Appomattox Court House. Va.	200			500		

APRIL—CONTINUED.

9—Lee surrendered to the Armies of the Potomac and James (Maj.-Gen. Grant), with 26,000 prisoners.

14—Mobile surrendered to a combined army and naval attack.

14—The flag that Gen. Anderson had lowered at Ft. Sumter was returned to its position.

14—President Lincoln was assassinated at Washington. He was shot in the back of the head at Ford's theatre by Wilkes Booth, and died next morning.

15—Andrew Johnson, Vice-President, took the oath of office as President.

17—Surrender of Mosby to Maj.-Gen. Hancock, with 700 prisoners.

25—Wilkes Booth shot in a barn in Virginia and died in twenty-four hours.

APRIL—CONTINUED.

26—Johnson surrendered to the Armies of the Tennessee, Georgia, and Ohio (Maj.-Gen. Sherman), with 29,924 prisoners.

MAY, 1865.

5—Galveston, Tex., surrenders to the Federals.

10—Capture of Jefferson Davis at Irwinsville, Ga.

10—Surrender of Sam. Jones' command at Tallehassee, Fla., with 8,000 prisoners.

11—Chalk Bluff, Ark. Surrender of Jeff Thompson's command with 7,454 prisoners.

13—Palmetto Ranch, Tex., 118 Federals killed.

26—Surrender of Kirby Smith to Maj.-Gen. Canby's command with 20,000 prisoners.

26—The Armies of the East and West were disbanded and returned home, after a review at Washington.

JUNE, 1865.

6—An order was issued for the release of all prisoners of war in the depots of the North.

JULY, 1865.

7—Mrs. Surratt, Harold, Payne, and Azertoth hanged at Washington for conspiracy in the murder of Lincoln.

DECEMBER, 1865.

18—Secretary Seward officially declared slavery abolished.

EXPLANATION OF MARKS AND ABBREVIATIONS.

* Federals victorious.
† Confederates victorious.
k—Killed.
w—Wounded.
m—Missing.
P-M—Prisoners and missing.

ELECTRICITY.

As far back as 321 B. C , the ancient philosopher Theophrastus mentions the power of amber to attract straws and dry leaves, Pliny. in 70 A. D., writes concerning the same phenomenon, and it is from the Greek name of "amber," pronounced "elecktron," that we call this phenomenon "electricity." Dr. Gilbert, of Colchester, may be considered the founder of the *science* of electricity, for it was he that carefully repeated the observations of the ancients, and experimented in various ways and published these experiments in a book during the period between 1540 and 1603. Sir Wm. Watson (1715 to 1807) distinctly announced the theory of *positive* and *negative* electricity, which was afterwards elaborated by Dr. Benjamin Franklin. Dr. Franklin also established the fact that the lightning was an electrical spark, similar to that made by an electric machine or Leyden jar. In 1790, Galvani discovered that the contact o metals produced muscular contraction in the legs of a der frog, and in 1800, Valta discovered the art of generating electricity by contact of metals with damp cloths. From these we obtained the *galvanic battery* and the *voltaic pile*. It remained with Prof. H. C. Oersted, of Copenhagen, however, to bring forward the most important fact, viz., the *magnetic* action of the *electrical* current. This was in 1820. As soon as the discovery reached France, the eminent French philosopher Ampere set to work to develop the important consequences it involved. Faraday in 1820, discovered *electric-magnetic* rotation. From this time up, experimentists and theorists were busy searching for ways and means by which the *electrical energy* could be utilized as mechanical power, and to-day the galvanic battery and electric dynamo are rapidly ousting steam, and in a thousand ways doing its work with less noise, expense and better results. Electrical lighting is done by means of the *arc* and *incandescent* systems.

THE PHONOGRAPH.

The Phonograph is a machine for recording and then transmitting sounds, speech, mucic, etc. It is the invention of Thos. A. Edison, the most noted electrician of this age. The phonograph was accidentally discovered. Mr. Edison was at work on an apparatus for recording a telegraphic message, by having an armature (with a needle fastened in one end) of the sounder make indentations on a piece of tin foil wrapped around a cylinder. The message would thus be punctured or indented on this tin foil, then, by substituting another needle—blunt—for the sharp one and turning the cylinder, the armature would be vibrated as the needle entered into and passed out of the indentations. While experimenting, he turned the cylinder verp rapidly, and instead of a succession of "clicks," a musical sound was produced. He seized the idea, and the Edison Phonograph was the result. The perfected phonograph of to-day consists of a cylinder of wax, or other plastic material, which is revolved either by hand, foot power or an electric motor. This cylinder, called the *phonogram*, is used for recording the sound. This is done by a diaphragm—such as is used in a telephone—into the center of which is fastened a sharp needle, which rests upon and just touches the phonogram. When the words are spoken the diaphragm vibrates, moving this needle up and down, and a series of indentations are made in a spiral line on the phonogram, which is turning around about eighty-five times a minute. To make the phonograph *speak*, or repeat the words, another diaphragm, similar to the first or recorder, but having a blunt instead of a sharp needle, is placed at the starting point and the phonogram made to revolve, of course, as the needle passes over the indentations it vibrates the diaphragm and the words are reproduced—as in a telephone. The phonograph faithfully reproduces music, whistling, singing, speech, or any sounds, and the phonograms can be packed into a mailing tube and sent all over the world to be used as often as desired.

THE TELEPHONE.

In 1831. Wheatstone showed that when the sour boards of two musical instruments were connected togeth a rod of pine wood, a tune played on one will be faith reproduced by the other. Somewhat later a toy, called Lovers' String, was made, and is the simplest form mechanical telephone. The toy consisted of two tin the bottoms made of parchment or cat gut tightly stret like a drum head, and connected, one with the other, string or cord. When the string was drawn taut, sounds, as those of ordinary speech, produced in front of one o cups were transmitted along the string to the other cu reproduced there. This was the first telephone. At va times between 1831 and 1876, electricians and scientists experimented with electro-magnets as a means of transmi sounds a long distance. Charles Bourseul in 1854 publi an article on the electrical transmission of speech, and re mended the use of a flexible plate at the source of so which would vibrate in response to the atmospheric p tions and thus open and shut an electrical circuit, and w thus operate, by an electro-magnet, upon a similar plate distance connected by wire with tne first, causing it to out as many pulsations as there were breaks in the ci In 1876, Alexander Graham Bell first exhibited the spea telephone at the Philadelphia Centennial Exposition. this telephone, greatly improved however, which is n common use. This telephone consists of a compouud pe nent magnet fitted into the center of a hard rubber tube carrying, at one end, a short electro-magnet. In front of electro-magnet is fixed a thin, soft iron disk, about one three-fourths inches in diameter. This disk lies at tne e the rubber tube, where the tube is formed into a mouth p The action of telephoning with this telephone is very sin The sound, as ordinary speech, is made in the mouth p The atmosphere conveys the sound—vibrations agains thin, iron disk (commonly called the diaphragm.) The vibrates in sympathy, and ceming against the electro-ma breaks and opens the electric circuit with every vibra By means of the connecting wire, the electro-magnet i distant telephone causes the diaphragm to vibrate c sponding to the breaks in the current. This of course vib the atmosphere and the pulsations are conveyed to the The telephone thus described is now used as a receiver. transmitter invented and improved by Edison and Blak combined with the Bell telephone and makes the telepho general use. Telephonic communication nave been between Chicago and New York, but not with overwhel *success.*

Highest and Greatest Mountains in the World.

NAME.	COUNTRY	Feet High.	Miles
Mt. Everest (Himalayas)	Thibet	29,002	5¾
Sorato, the highest in America	Bolivia	21,284	4
Illimani	Bolivia	21,145	4
Chimborazo	Ecuador	21,422	4⅔
Hindoo-Koosh	Afghanistan	20,600	3¾
Demavend, highest of Elburz Mts	Persia	20,000	3¾
Cotopaxi, highest volcano in the world	Ecuador	19,496	3¾
Antisana	Ecuador	19,150	3½
St. Elias, highest in North America	Alaska	17,850	3⅓
Popocatapetl, volcano	Mexico	17,540	3⅓
Mt. Roa, highest in Oceanica	Hawaii	16,000	3
Mt. Brown, highest peak of R'ky Mts	Brit. America	15,900	3
Mont Blanc, highest in Europe, Alps.	Savoy	15,732	3
Mt. Rosa, next highest peak of Alps	Savoy	15,150	2⅞
Limit of perpetual show at the	Equator	15,207	2⅞
Pichinca	Ecuador	15,924	3
Mt. Whitney	California	14,887	2¾
Mt. Fairweather	Alaska	14,500	2¾
Mt. Shasta	California	14,442	2¾
Mt. Ranier	Wash. Territ'y	14,444	2¾
Long's Peak, Rocky Mountains	Colorado	14,271	2⅔
Mt. Ararat	Armenia	14,320	2⅓
Pike's Peak	Colorado	14,216	2⅓
Mt. Ophir	Sumatra	13,800	2⅝
Fremont's Peak, Rocky Mountains	Wyoming	13,570	2⅝
Mt. St. Helens	Wash Territ'y	13,400	2½
Peak of Teneriffe	Canaries	12,182	2⅛
Miltzin, highest of Atlas Mountains	Morocco	11,500	2
Mt. Hood	Oregon	11,225	2
Mt. Lebanon	Syria	10,533	2
Mt. Perda, highest of Pyrenees	France	10,950	2
Mt. Ætna, volcano	Sicily	10,835	2
Monte Corno, highest of Appenines	Naples	9,523	1¾
Sneehattan, highest Dovrefield Mts	Norway	8,115	1½
Pindus, highest in	Greece	7,677	1½
Mount Sinai	Arabia	6,541	1¼
Black Mountain, highest in	N. Carolina	6,760	1¼
Mt. Washington, highest White Mts	N Hampshire	6,285	1¼
Mt. Marcy, highest in	New York	5,402	1
Mt. Hecla, volcano	Iceland	5,104	1
Ben Nevis, highest in Great Britain	Scotland	4,406	⅞
Mansfield, highest of Green Mountains	Vermont	4,280	⅘
Peaks of Otter	Virginia	4,260	⅘
Mt. Vesuvius	Naples	4,253	⅘
***Round Top, highest* of Catskill Mts**	New York	3,804	[illegible]

***ONE HORSE* POWER is the strength necessary to lift 33** *pounds one foot per minute.*

Portraits on Bank Notes and Postage Stamps.

On United States notes—$1, Washington; $2, Jefferson; $5, Jackson; $10, Webster; $20, Hamilton; $50, Franklin; $100, Lincoln; $500, General Mansfield; $1,000, DeWitt Clinton; $5,000, Madison; $10,000, Jackson. On silver certificates—$10, Robert Morris; $20, Commodore Decatur; $50, Edward Everett; $100, James Monroe; $500, Charles Sumner, and $1,000, W. L. Marcy. On gold notes—$20, Garfield; $50, Silas Wright; $100, Thomas H. Benton; $500, A. Lincoln; $1,000, Alexander Hamilton; $5,000, James Madison; $10,000, Andrew Jackson.

Those which appear upon postage stamps are: On 10-cent stamp, the head of Jefferson, from life-size statue by Powers; 6-cent, Lincoln, from bust by Volk; 5-cent, Garfield; 4-cent, Jackson; 2-cent, Washington, after Houdon's bust; 1-cent, Franklin, from profile bust by Rubicht.

Average Temperature in United States.

AVERAGE OF THREE YEARS.

Prescott, Arizona	51.9	Salt Lake City, Utah	50.3
Jacksonville, Florida	70.4	Morgantown, W. Virginia	53.1
New Orleans, Louisiana	70.2	Indianapolis, Indiana	53.3
Galveston, Texas	70.5	Leavenworth, Kansas	53.3
Mobile, Alabama	67.4	Santa Fe, N. Mexico Ter.	46.8
Jackson, Mississippi	66	Spokane Falls, W. Ter.	46.2
Little Rock, Arkansas	62.3	New London, Connecticut	49.9
Charleston, S. Carolina	66.9	Chicago, Illinois	48.8
Ft. Gibson, Indian Ter.	59.4	Winnemucca, Nevada	48
Charlotte, N. Carolina	60.6	Des Moines, Iowa	48.5
Atlanta, Georgia	61.7	Omaha, Nebraska	49.5
Memphis, Tennessee	61.7	Denver, Colorado	49.2
Norfolk, Virginia	60.1	Boston, Massachusetts	48.4
Louisville, Kentucky	57.4	Albany, New York	50.4
San Francisco, California	55	Providence, Rhode Island	48
Washington, D. C	55	Detroit, Michigan	49.7
St. Louis, Missouri	55	Ft. Randall, Dakota	47
Baltimore, Maryland	56	Sitka, Alaska	43.9
Harrisburg, Pennsylvania	54	Concord, New Hampshire	46
Wilmington, Delaware	53	Augusta, Maine	45
Trenton, New Jersey	53	Madison, Wisconsin	45
Cincinnati, Ohio	56	Helena, Montana Ter.	42.6
Portland, Oregon	51.4	Burlington, Vermont	45
Boise City, Idaho	49.4	St. Paul, Minnesota	43.9

If a railway were built to the sun, and trains upon it were run at the rate of thirty miles an hour, day and night without a stop, it would require 350 years to make the journey from the earth to the sun.

Average Rainfall in the United States.

PLACE.	Inches.	PLACE.	Inches.
Ft. Garland, Colorado	6	Ft. Smith, Arkansas	40
Ft. Bridger, Utah Ter	6	Providence, Rhode Island	41
Ft. Bliss, Texas	9	New Bedford, Mass	41
Ft. Colville, Wash. Ter	9	Baltimore, Maryland	41
San Diego, California	9	Muscatine, Iowa	42
Ft. Craig, New Mexico Ter	11	St. Louis, Missouri	43
Ft. Defiance, Arizona	14	Marietta, Ohio	43
Ft. Randall, Dakota Ter	16	Richmond, Indiana	43
Ft. Marcy, New Mexico Ter	16	Gaston, N. Carolina	43
Ft. Massachusetts, Colorado	17	New York City, N. Y	43
Sacramento, California	21	Charleston, S. Carolina	43
Dallas, Oregon	21	Philadelphia, Pennsylvania	44
San Francisco, California	21	New Haven, Connecticut	44
Mackinac, Michigan	23	Cincinnati, Ohio	44
Salt Lake City, Utah Ter	23	Brunswick, Maine	44
Ft. Snelling, Minnesota	25	Boston, Massachusetts	44
Ft. Kearney	25	Newark, New Jersey	44
Penn Yan, New York	28	Memphis, Tennessee	45
Milwaukee, Wisconsin	30	Fortress Monroe, Virginia	47
Detroit, Michigan	30	Springdale, Kentucky	48
Ft. Leavenworth, Kansas	31	Savannah, Georgia	48
Ft. Brown, Texas	33	New Orleans, Louisiana	51
Buffalo, New York	33	Natchez, Mississippi	53
Burlington, Vermont	34	Huntsville Alabama	54
Peoria, Illinois	35	Washington, Arkansas	54
Key West, Florida	36	Ft. Myers, Florida	56
Ft. Gibson, Indian Ter	36	Ft. Tonson. Indian Ter	57
White Sulphur Springs, Va	37	Meadow Valley, California	57
Washington, D. C	37	Baton Rouge, Louisiana	60
Pittsburgh, Pennsylvania	37	Mt. Vernon, Alabama	66
Cleveland, Ohio	37	Ft. Haskins, Oregon	66
Ft. Vancouver	38	Sitka, Alaska	83
Hanover, New Hampshire	40	Neah Bay, Wash. Ter	123

Yards of Wire per Bundle.

Wires all weigh 63 lbs. to the bundle

Wire Gauge.	Yards in Bundle.	Wire Gauge.	Yards in Bundle.
No. 0	71	No. 11	529
" 1	91	" 12	700
" 2	105	" 13	893
" 3	121	" 14	1142
" 4	143	" 15	1468
" 5	170	" 16	1954
" 6	203	" 17	254
" 7	239	" 18	31
" 8	286	" 19	4
" 9	342	" 20	
" 10	420		

Amount of Barbed Wire Required for Fences.

Estimated number of pounds of barbed wire required to fence space or distances mentioned, with one, two or three lines of wire, based upon each pound of wire measuring one rod (16½ feet).

	1 Line.	2 Lines.	3 Lines.
1 square acre	50⅔ lbs.	101⅓ lbs.	152 lbs.
1 side of a square acre	12⅔ lbs.	25⅓ lbs.	38 lbs.
1 square half-acre	36 lbs.	72 lbs.	108 lbs.
1 square mile	1280 lbs.	2560 lbs.	3840 lbs.
1 side of a square mile	320 lbs.	640 lbs.	960 lbs.
1 rod in length	1 lb.	2 lbs.	3 lbs.
100 rods in length	100 lbs.	200 lbs	300 lbs.
100 feet in length	6 1-16 lbs.	12⅛ lbs.	18 3-16 lbs.

Number of Shrubs or Plants for an Acre of Ground.

Dist. apart.	*No. of Plants.*	*Dist. apart.*	*No. of Plants.*
3 inches by 3 inches	696,960	6 feet by 6 feet	1,210
4 inches by 4 inches	392,040	6½ feet by 6½ feet	1,031
6 inches by 6 inches	174,240	7 feet by 7 feet	881
9 inches by 9 inches	77,440	8 feet by 8 feet	680
1 foot by 1 foot	43,560	9 feet by 9 feet	537
1½ feet by 1½ feet	19,360	10 feet by 10 feet	435
2 feet by 1 foot	21,780	11 feet by 11 feet	360
2 feet by 2 feet	10,890	12 feet by 12 feet	302
2½ feet by 2½ feet	6,960	13 feet by 13 feet	257
3 feet by 1 foot	14,520	14 feet by 14 feet	222
3 feet by 2 feet	7,260	15 feet by 15 feet	193
3 feet by 3 feet	4,840	16 feet by 16 feet	170
3½ feet by 3½ feet	3,555	16½ feet by 16½ feet	160
4 feet by 1 foot	10,890	17 feet by 17 feet	150
4 feet by 2 feet	5,445	18 feet by 18 feet	134
4 feet by 3 feet	3,630	19 feet by 16 feet	120
4 feet by 4 feet	2,722	20 feet by 20 feet	108
4½ feet by 4½ feet	2,151	25 feet by 25 feet	69
5 feet by 1 foot	8,712	30 feet by 30 feet	48
5 feet by 2 feet	4,356	33 feet by 33 feet	40
5 feet by 3 feet	2,904	40 feet by 40 feet	27
5 feet by 4 feet	2,178	50 feet by 50 feet	17
5 feet by 5 feet	1,742	60 feet by 60 feet	12
5½ feet by 5½ feet	1,417	66 feet by 66 feet	10

COST OF **EMANCIPATION.**—If the total cost of the Civil *War be divided* among the slaves set free, emancipation cost abou $700 per slave.

How Deep in the Ground to Plant Corn.

The following is the result of an experiment with Indian Corn. That which was planted at the depth of

½ inch, sprout appeared in	8 days
1 inch, sprout appeared in	8½ days
1½ inch, sprout appeared in	9½ days
2 inches, sprout appeared in	10 days
2½ inches, sprout appeared in	11½ days
3 inches, sprout appeared in	12 days
3½ inches, sprout appeared in	13 days
4 inches, sprout appeared in	13½ days

The more shallow the seed was covered with earth, the more rapidly the sprout made its appearance, and the stronger afterward was the stalk. The deeper the seed lay, the longer it remained before it came to the surface. Four inches was too deep for the maize, and also too deep for smaller kernels.

How to Measure Corn in Crib, Hay in a Mow, etc.

This rule will apply to a crib of any kind. Two cubic feet of sound, dry corn in the ear will make a bushel shelled. To get the quantity of shelled corn in a crib of corn in the ear, measure the length, breadth and height of the crib, inside of the rail; multiply the length by the breadth and the product by the height; then divide the product by two, and you have the number of bushels in the crib.

To find the number of bushels of apples, potatoes, etc., in a bin, multiply the length, breadth and thickness together, and this product by 8, and point off one figure in the product for decimals.

To find the amount of hay in a mow, allow 512 cubic feet for a ton, and it will come out very near correct.

How Grain Will Shrink.

Farmers rarely gain by keeping their grain after it is fit for market, when the shrinkage is taken into account. Wheat, from the time it is threshed, will shrink two quarts to the bushel or six per cent in six months, in the most favorable circumstances. Hence, it follows that ninety-four cents a bushel for wheat when first threshed in August, is as good, taking into account the shrinkage alone, as one dollar in the following February.

Corn shrinks much more from the time it is first husked. One hundred bushels of ears, as they come from the field in November, will be reduced to not far from eighty. So that forty cents a bushel for corn in the ear, as it comes from the field, is as good as fifty in March, shrinkage only being taken into the account.

In the case of potatoes—taking those that rot and are other*wise lost—together* with the shrinkage, there is but little *doubt that between* October and June, the loss to the owner *who holds them* is not less than thirty-three per cent. *This estimate* is taken on the basis of interest at 7 per cent *and takes no account* of loss by vermin.

What a Deed to a Farm in many States Includes.

Everyone knows it conveys all the fences standing on the farm, but all might not think it also included the fencing-stuff, posts, rails, etc., which had once been used in the fence, but had been taken down and piled up for future use again in the same place. But new fencing material, just bought, and never attached to the soil, would not pass. So piles of hop poles stored away, if once used on the land and intended to be again so used, have been considered a part of it, but loose boards or scaffold poles merely laid across the beams of the barn, and never fastened to it, would not be, and the seller of the farm might take them away. Standing trees, of course, also pass as part of the land; so do trees blown down or cut down, and still left in the woods where they fell, but not if cut, and corded up for sale; the wood has then become personal property.

If there be any manure in the barnyard, or in the compost heap on the field, ready for immediate use, the buyer ordinarily, in the absence of any contrary agreement, takes that also as belonging to the farm, though it might not be so, if the owner had previously sold it to some other party, and had collected it together in a heap by itself, for such an act might be a technical severance from the soil, and so convert real into personal estate; and even a lessee of a farm could not take away the manure made on the place while he was in occupation. Growing crops also pass by the deed of a farm, unless they are expressly reserved; and when it is not intended to convey those, it should be so stated in the deed itself; a mere oral agreement to that effect would not be, in most States, valid in law. Another mode is to stipulate that possession is not to be given until some future day, in which case the crops or manures may be removed before that time.

As to the buildings on the farm, though generally mentioned in the deed, it is not absolutely necessary they should be. A deed of land ordinarily carries all the buildings on it, belonging to the grantor, whether mentioned or not; and this rule includes the lumber and timber of any old building which has been taken down or blown down, and packed away for future use on farm.

United States Land Measure and Homestead Law.

A township is 36 sections, each a mile square. A section is 640 *acres. A quarter section*, half a mile square, is 160 acres. An *eighth section*, half a mile long, north and south, and a quarter of a *mile wide*, is 80 acres. A sixteenth section, a quarter of a mil square, is 40 acres.

The sections are all numbered 1 to 36, commencing at northeast corner, thus:

6	5	4	3	2	NW NE SW SE
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

The sections are all divided in quarters, which are named by the cardinal points, as in section 1. The quarters are divided in the same way. The description of a forty-acre lot would read: The south half of the west half of the south-west quarter of section 1 in township 24, north of range 7 west, or as the case might be; and sometimes will fall short, and sometimes overrun the number of acres it is supposed to contain.

Homestead Privilege.—The laws give to every citizen, and to those who bave declared their intention to become citizens, the right to a homestead on SURVEYED lands, to the extent of one-quarter section, or 160 acres, or a half-quarter section, or 80 acres; the former in cases in the class of lower priced lands held by law at $1.25 per acre, the latter of high priced lands held at $2.50 per acre, when disposed of to cash buyers. The pre-emption privilege is restricted to heads of families, widows, or single persons over the age of twenty-one.

Every soldier and officer in the army, and every seaman, marine and officer of the navy, during the recent rebellion, may enter 160 acres from either class, and length of time served in the army or navy deducted from the time required to perfect title.

BOOKS PUBLISHED.—There are published daily, throughout the world, about 100 new books, or 30,000 a year.

STATES.	Buckwh't.	Corn on the Cob.	Shelled Corn.	Corn Meal	Onions.	Sweet Potatoes.	Potatoes.	Turnips.	Peas	Beans.	Barley.	Wheat.	Oats.	Rye.	Dried Apple	Flax See	Clover Se	Blue G Se	Anth	Ti
Arkansas	52	70	....	50	57	50	60	....	46	60	48	60	32	56	24	56	60	14	80	45
California	40	....	52	....	....	....	....	....	....	....	50	60	32	54	....	....	....	....	....	....
Connecticut	48	....	56	50	50	....	60	50	60	60	48	60	32	56	....	....	....	....	....	....
Georgia	52	70	56	48	57	55	60	55	60	60	47	60	32	56	24	56	60	14	80	45
Illinois	52	70	56	48	57	55	60	55	....	60	48	60	32	56	24	56	60	14	80	45
Indiana	50	68	56	50	48	....	60	....	....	60	48	60	....	56	25	....	60	14	....	45
Iowa	52	70	56	....	57	46	60	....	....	60	48	60	32	56	24	56	60	14	80	45
Kansas	50	70	56	50	57	50	60	55	....	60	48	60	32	56	24	54	60	14	80	45
Kentucky	55	70	55	50	57	55	60	60	60	60	47	60	32	56	24	56	60	14	76	45
Maine	48	....	56	50	52	....	60	50	60	64	48	60	30	50	....	....	....	....	....	....
Massachusetts	48	....	55	50	52	56	60	....	....	....	48	60	32	56	....	....	....	....	....	....
Michigan	48	70	56	50	54	56	60	58	60	60	48	60	32	56	22	56	60	14	....	45
Minnesota	42	....	56	....	....	....	60	....	....	....	48	60	32	56	28	....	60	....	....	....
Missouri	52	....	56	....	57	....	60	....	....	60	48	60	32	56	24	56	60	14	....	45
New Hampshire	....	....	56	50	....	....	60	....	60	60	....	60	32	56	....	....	....	....	....	....
New Jersey	50	....	56	....	57	54	60	....	60	60	48	60	30	56	25	55	64	....	....	....
New York	48	....	56	....	....	....	60	....	60	62	48	60	32	56	....	55	60	....	....	44
North Carolina	50	....	54	46	....	....	....	....	50	....	48	60	30	56	....	....	64	....	....	....
Ohio	50	70	56	....	50	50	60	....	60	60	48	60	32	56	22	56	60	....	....	45
Pennsylvania	48	....	56	....	....	....	56	....	....	....	47	60	32	56	....	....	62	....	....	....
Rhode Island	....	....	56	50	50	....	60	....	....	....	48	60	32	56	....	....	....	....	....	....
South Carolina	56	70	56	50	57	50	60	....	60	60	48	60	33	56	26	44	60	14	....	....
Tennessee	50	72	56	50	56	50	60	....	60	60	48	60	32	56	26	56	....	14	....	45
Vermont	46	....	52	....	52	....	60	60	60	60	48	60	32	56	....	....	60	....	....	45
Virginia	52	70	56	50	57	56	60	55	60	60	48	60	32	56	28	56	60	14	80	45
Wisconsin	50	70	56	....	50	....	60	42	....	60	48	60	32	56	28	56	60	....	....	45

CANALS — THEIR LENGTH AND COST.

The following table comprises the canals of the United States and Canada of which the cost has exceeded $1,000,000 each:

NAME.	State.	Length in miles.	Cost.
Erie	New York.	363	$7,143,789
Champlain	"	63	1,257,604
Chenango	"	97	2,419,956
Central Division, public	Penna	173	5,307,252
Western " "	"	104	3,096,522
Susquehanna Division, public	"	39	1,039,256
N. Branch " "	"	73	1,096,178
N. Branch Extension "	"	90	3,528,302
Delaware Division "	"	60	1,275,715
Schuylkill " private	"	108	2,500,176
Lehigh " "	"	85	4,455,099
Union " "	"	82	....
Del. and Hudson	N. Y. & Pa.	108	2,500,000
" " enlarged	"	108	6,500,000
Del. and Raritan feeder	New Jersey.	43	2,844,103
Morris and Essex	"	101	3,100,000
Chesapeake and Delaware	Del. & Md.	13½	2,750,000
Chesapeake and Ohio	Maryland	191	10,000,000
Ohio and Erie	Ohio	307	4,695,824
Miami	"	178	3,750,000
Sandy and Beaver	"	76	1,500,000
James River and Kanawha	Virginia	147	5,020,050
Wabash and Erie	Indiana	379	....
" "	"	90	3,057,120
Illinois and Michigan	Illinois	102	8,654,337
Welland	Canada	36	7,000,000
St. Lawrence	"	10	1,000,000
Cornwall	"	12	2,000,000
Beauharnois	"	11	1,500,000
Lachine	"	8½	2,000,000

The big trees (redwoods) of Calaveras County, Cal., are ninety-two in number, ten being thirty feet in diameter. *They range in* height from 150 to 237 feet, and *are from 1,000 to* 3,500 years of age.

THE BIGGEST THINGS.

Interesting Facts Useful When You Get Into an Argument.

The largest theater in the world is the new Opera-house in Paris. It covers nearly three acres of ground; its cubic mass is 4,287,000 feet; it cost about 100,000,000 francs. The largest suspension bridge is the one between New York City and Brooklyn; the length of the main span is 1,595 feet 6 inches; the entire length of the bridge is 5,980 feet. The loftiest active volcano is Popocatapetl — "smoking mountain"— thirty-five miles southwest of Puebla, Mexico; it is 17,748 feet above the sea level, and has a crater three miles in circumference, and 1,000 feet deep. The longest span of wire in the world is used for a telegraph in India over the River Kistnah. It is more than 6,000 feet in length, and is 1,200 feet high. The largest ship in the world is the Great Eastern. She is 680 feet long, 83 feet broad, and 60 feet deep, being 28,627 tons burden, 18,915 gross, and 13,334 net register.

The greatest fortress, from a strategical point of view, is the famous stronghold of Gibraltar. It occupies a rocky peninsula jutting out into the sea, about three miles long and three-quarters of a mlle wide. One central rock rises to a hight of 1,435 feet above the sea level. Its northern face is almost perpendicular, while its east side is full of tremendous precipices. On the south it terminates in what is called Europa Point. The west side is less steep than the east, and between its base and the sea is the narrow, almost level span on which the town of Gibraltar is built. The fortress is considered *impregnable to military* assault. The regular garrison *in time of peace* numbers about 7,000.

The biggest cavern is the Mammoth Cave, in Edmonson County, Kentucky. It is near Green River, about six miles from Cave City, and twenty-eight from Bowling Green. The cave consists of a succession of irregular chambers, some of which are large, situated on different levels. Some of these are traversed by the navigable branches of the subterranean Echo River. Blind fish are found in its waters.

The longest tunnel in the world is that of the St. Gothard, on the line of railroad between Lucerne and Milan. The summit of the tunnel is 900 feet below the surface at Andermatt, and 6,600 feet beneath the peak of Kastlehorn, of the St. Gothard group. The tunnel is 26½ feet wide, and is 18 feet 10 inches from the floor to the crown of the arched roof. It is 9½ miles long.

The biggest trees in the world are the mammoth trees of California. One of a grove in Tulare County, according to measurements made by members of the State Geological Survey, was shown to be 276 feet in height, 108 feet in circumference at base, and 76 feet at a point 12 feet above ground. Some of the trees are 376 feet high, and 34 feet in diameter. Some of the largest that have been felled indicate an age of from 2,000 to 2,500 years.

The largest library is the Bibliotheque National, in Paris, founded by Louis XIV. It contains 1,400,000 volumes, 300,000 pamphlets. 175,000 manuscripts, 300,000 maps and charts, and 150,000 coins and medals. The collection of engravings exceeds 1,300,000, contained in some 10,000 volumes. The portraits number about 100,000.

The largest desert is that of Sahara, a vast region of Northern Africa, extending from the Atlantic Ocean on the west to the valley of the Nile on the east. The length from east to west is about 3,000 miles, its average breadth about 900 miles, its area about 2,000,000 square miles. Rain falls in torrents in the Sahara at intervals of five, ten and twenty years. In summer the heat during the day is excessive, but the nights are often cold

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Years 1801 to 1900.											Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1801	1807	1818	1829	1835	1846	1857	1863	1874	1885	1891	4	7	7	3	5	1	3	6	2	4	7	2
1802	1813	1819	1830	1841	1847	1858	1869	1875	1886	1897	5	-	1	4	6	2	4	7	3	5	1	3
1803	1814	1825	1831	1842	1853	1859	1870	1881	1887	1898	6	2	2	5	7	3	5	1	4	6	2	4
1805	1811	1822	1833	1839	1850	1861	1867	1878	1889	1895	2	5	5	1	3	6	1	4	7	2	5	7
1806	1817	1823	1834	1845	1851	1862	1876	1879	1890	....	3	6	6	2	4	7	2	5	1	3	6	1
1809	1815	1826	1837	1843	1854	1865	1871	1882	1893	1899	7	3	3	6	1	4	6	2	5	7	3	5
1810	1821	1827	1838	1849	1855	1866	1877	1883	1894	1900	1	4	4	7	2	5	7	3	6	1	4	6
							LEAP YEARS.				..	29	..	..	..	..	..	..	..	..	..	..
							1804	1832	1860	1888	7	3	4	7	2	5	7	3	6	1	4	6
							1808	1836	1864	1892	5	1	2	5	7	3	5	1	4	6	2	4
							1812	1840	1868	1896	3	6	7	3	5	1	3	6	2	4	7	2
							1816	1844	1872	....	1	4	5	1	3	6	1	4	7	2	5	7
							1820	1848	1876	....	6	2	3	6	1	4	6	2	5	7	3	5
							1824	1852	1880	....	4	7	1	4	6	2	4	7	3	5	1	3
							1828	1856	1884	....	2	5	6	2	4	7	2	5	1	3	6	1

NOTE.—To ascertain any day of the week in any year of the present century, first look in the table of years for the year required, and under the months are figures which refer to the corresponding figures at the head of the columns of days below. *For Example:* To know what day of the week May 4 will be on in the year 1872, in the table of years look for 1872, and in a parallel line, under May, is figure 3, which directs to column 3, in which it will be seen that May 4 falls on Saturday.

1	2	3	4	5	6	7
Monday 1	Tuesday 1	Wednesday 1	Thursday 1	Friday 1	Saturday 1	*Sunday* 1
Tuesday 2	Wednesday 2	Thursday 2	Friday 2	Saturday 2	*Sunday* 2	Monday 2
Wednesday 3	Thursday 3	Friday 3	Saturday 3	*Sunday* 3	Monday 3	Tuesday 3
Thursday 4	Friday 4	Saturday 4	*Sunday* 4	Monday 4	Tuesday 4	Wednesday 4
Friday 5	Saturday 5	*Sunday* 5	Monday 5	Tuesday 5	Wednesday 5	Thursday 5
Saturday 6	*Sunday* 6	Monday 6	Tuesday 6	Wednesday 6	Thursday 6	Friday 6
Sunday 7	Monday 7	Tuesday 7	Wednesday 7	Thursday 7	Friday 7	Saturday 7
Monday 8	Tuesday 8	Wednesday 8	Thursday 8	Friday 8	Saturday 8	*Sunday* 8
Tuesday 9	Wednesday 9	Thursday 9	Friday 9	Saturday 9	*Sunday* 9	Monday 9
Wednesday 10	Thursday 10	Friday 10	Saturday 10	*Sunday* 10	Monday 10	Tuesday 10
Thursday 11	Friday 11	Saturday 11	*Sunday* 11	Monday 11	Tuesday 11	Wednesday 11
Friday 12	Saturday 12	*Sunday* 12	Monday 12	Tuesday 12	Wednesday 12	Thursday 12
Saturday 13	*Sunday* 13	Monday 13	Tuesday 13	Wednesday 13	Thursday 13	Friday 13
Sunday 14	Monday 14	Tuesday 14	Wednesday 14	Thursday 14	Friday 14	Saturday 14
Monday 15	Tuesday 15	Wednesday 15	Thursday 15	Friday 15	Saturday 15	*Sunday* 15
Tuesday 16	Wednesday 16	Thursday 16	Friday 16	Saturday 16	*Sunday* 16	Monday 16
Wednesday 17	Thursday 17	Friday 17	Saturday 17	*Sunday* 17	Monday 17	Tuesday 17
Thursday 18	Friday 18	Saturday 18	*Sunday* 18	Monday 18	Tuesday 18	Wednesday 18
Friday 19	Saturday 19	*Sunday* 19	Monday 19	Tuesday 19	Wednesday 19	Thursday 19
Saturday 20	*Sunday* 20	Monday 20	Tuesday 20	Wednesday 20	Thursday 20	Friday 20
Sunday 21	Monday 21	Tuesday 21	Wednesday 21	Thursday 21	Friday 21	Saturday 21
Monday 22	Tuesday 22	Wednesday 22	Thursday 22	Friday 22	Saturday 22	*Sunday* 22
Tuesday 23	Wednesday 23	Thursday 23	Friday 23	Saturday 23	*Sunday* 23	Monday 23
Wednesday 24	Thursday 24	Friday 24	Saturday 24	*Sunday* 24	Monday 24	Tuesday 24
Thursday 25	Friday 25	Saturday 25	*Sunday* 25	Monday 25	Tuesday 25	Wednesday 25
Friday 26	Saturday 26	*Sunday* 26	Monday 26	Tuesday 26	Wednesday 26	Thursday 26
Saturday 27	*Sunday* 27	Monday 27	Tuesday 27	Wednesday 27	Thursday 27	Friday 27
Sunday 28	Monday 28	Tuesday 28	Wednesday 28	Thursday 28	Friday 28	Saturday 28
Monday 29	Tuesday 29	Wednesday 29	Thursday 29	Friday 29	Saturday 29	*Sunday* 29
Tuesday 30	Wednesday 30	Thursday 30	Friday 30	Saturday 30	*Sunday* 30	Monday 30
Wednesday 31	Thursday 31	Friday 31	Saturday 31	*Sunday* 31	Monday 31	Tuesday 31

A CALENDAR FOR ASCERTAINING ANY DAY OF THE WEEK FOR ANY GIVEN TIME WITHIN THE PRESENT CENTURY.

Years 1801 to 1900.											Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1801	1807	1818	1829	1835	1846	1857	1863	1874	1885	1891	4	7	7	3	5	1	3	6	2	4	7	2
1802	1813	1819	1830	1841	1847	1858	1869	1875	1886	1897	5	[illegible]	1	4	6	2	4	7	3	5	1	3
1803	1814	1825	1831	1842	1853	1859	1870	1881	1887	1898	6	2	2	5	7	3	5	1	4	6	2	4
1805	1811	1822	1833	1839	1850	1861	1867	1878	1889	1895	2	5	5	1	3	6	1	4	7	2	5	7
1806	1817	1823	1834	1845	1851	1862	1876	1879	1890	....	3	6	6	2	4	7	2	5	1	3	6	1
1809	1815	1826	1837	1843	1854	1865	1871	1882	1893	1899	7	3	3	6	1	4	6	2	5	7	3	5
1810	1821	1827	1838	1849	1855	1866	1877	1883	1894	1900	1	4	4	7	2	5	7	3	6	1	4	6
							LEAP YEARS.				..	29	..	..	..	..	..	..	..	..	..	..
							1804	1832	1860	1888	7	3	4	7	2	5	7	3	6	1	4	6
							1808	1836	1864	1892	5	1	2	5	7	3	5	1	4	6	2	4
							1812	1840	1868	1896	3	6	7	3	5	1	3	6	2	4	7	2
							1816	1844	1872	....	1	4	5	1	3	6	1	4	7	2	5	7
							1820	1848	1876	....	6	2	3	6	1	4	6	2	5	7	3	5
							1824	1852	1880	....	4	7	1	4	6	2	4	7	3	5	1	3
							1828	1856	1884	....	2	5	6	2	4	7	2	5	1	3	6	1

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1	2	3	4	5	6	7
Monday.... 1	Tuesday ... 1	Wednesday. 1	Thursday .. 1	Friday 1	Saturday... 1	*Sunday*.... 1
Tuesday.... 2	Wednesday. 2	Thursday .. 2	Friday 2	Saturday... 2	*Sunday*.... 2	Monday.... 2
Wednesday. 3	Thursday .. 3	Friday 3	Saturday... 3	*Sunday*.... 3	Monday.... 3	Tuesday ... 3
Thursday .. 4	Friday 4	Saturday... 4	*Sunday*.... 4	Monday.... 4	Tuesday ... 4	Wednesday. 4
Friday 5	Saturday... 5	*Sunday*.... 5	Monday.... 5	Tuesday ... 5	Wednesday. 5	Thursday .. 5
Saturday... 6	*Sunday*.... 6	Monday.... 6	Tuesday ... 6	Wednesday. 6	Thursday .. 6	Friday 6
Sunday.... 7	Monday.... 7	Tuesday ... 7	Wednesday. 7	Thursday .. 7	Friday 7	Saturday... 7
Monday.... 8	Tuesday.... 8	Wednesday. 8	Thursday .. 8	Friday 8	Saturday... 8	*Sunday*.... 8
Tuesday ... 9	Wednesday. 9	Thursday .. 9	Friday 9	Saturday... 9	*Sunday*.... 9	Monday.... 9
Wednesday.10	Thursday...10	Friday 10	Saturday...10	*Sunday*....10	Monday....10	Tuesday ...10
Thursday...11	Friday 11	Saturday...11	*Sunday*....11	Monday....11	Tuesday ...11	Wednesday.11
Friday 12	Saturday...12	*Sunday*....12	Monday....12	Tuesday ...12	Wednesday.12	Thursday ..12
Saturday ...13	*Sunday* 13	Monday....13	Tuesday ...13	Wednesday.13	Thursday ..13	Friday 13
Sunday ...14	Monday....14	Tuesday ...14	Wednesday.14	Thursday ..14	Friday 14	Saturday...14
Monday....15	Tuesday....15	Wednesday.15	Thursday ..15	Friday 15	Saturday...15	*Sunday*....15
Tuesday ...16	Wednesday.16	Thursday ..16	Friday 16	Saturday...16	*Sunday*....16	Monday....16
Wednesday.17	Thursday...17	Friday 17	Saturday...17	*Sunday*....17	Monday....17	Tuesday....17
Thursday...18	Friday 18	Saturday...18	*Sunday*....18	Monday....18	Tuesday ...18	Wednesday.18
Friday 19	Saturday...19	*Sunday*....19	Monday....19	Tuesday ...19	Wednesday.19	Thursday ..19
Saturday...20	*Sunday*....20	Monday....20	Tuesday ...20	Wednesday.20	Thursday . 20	Friday 20
Sunday....21	Monday....21	Tuesday ...21	Wednesday.21	Thursday ..21	Friday 21	Saturday...21
Monday....22	Tuesday ...22	Wednesday.22	Thursday ..22	Friday 22	Saturday...22	*Sunday*....22
Tuesday ...23	Wednesday.23	Thursday ..23	Friday 23	Saturday...23	*Sunday*....23	Monday....23
Wednesday.24	Thursday ..24	Friday 24	Saturday...24	*Sunday*....24	Monday....24	Tuesday....24
Thursday...25	Friday 25	Saturday...25	*Sunday*....25	Monday....25	Tuesday ...25	Wednesday.25
Friday 26	Saturday ...26	*Sunday*....26	Monday....26	Tuesday ...26	Wednesday.26	Thursday ..26
Saturday...27	*Sunday*....27	Monday....27	Tuesday ..27	Wednesday.27	Thursday ..27	Friday 27
Sunday ..28	Monday....28	Tuesday ...28	Wednesday.28	Thursday ..28	Friday 28	Saturday...28
Monday ...29	Tuesday ..29	Wednesday.29	Thursday ..29	Friday 29	Saturday...29	*Sunday*....29
Tuesday....30	Wednesday.30	Thursday ..30	Friday 30	Saturday...30	*Sunday*....30	Monday....30
Wednesday.31	Thursday ..31	Friday 31	Saturday...31	*Sunday*....31	Monday....31	Tuesday ...31

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1803	1814	1825	1831	1842	1853	1859	1870	1881	1887	1898	6	2	2	5	7	3	5	1	4	6	2	4
1805	1811	1822	1833	1839	1850	1861	1867	1878	1889	1895	2	5	5	1	3	6	1	4	7	2	5	7
1806	1817	1823	1834	1845	1851	1862	1876	1879	1890	....	3	6	6	2	4	7	2	5	1	3	6	1
1809	1815	1826	1837	1843	1854	1865	1871	1882	1893	1899	7	3	3	6	1	4	6	2	5	7	3	5
1810	1821	1827	1838	1849	1855	1866	1877	1883	1894	1900	1	4	4	7	2	5	7	3	6	1	4	6
							LEAP YEARS.				..	29	..	..	..	..	..	..	..	..	..	..
							1804	1832	1860	1888	7	3	4	7	2	5	7	3	6	1	4	6
							1808	1836	1864	1892	5	1	2	5	7	3	5	1	4	6	2	4
							1812	1840	1868	1896	3	6	7	3	5	1	3	6	2	4	7	2
							1816	1844	1872	....	1	4	5	1	3	6	1	4	7	2	5	7
							1820	1848	1876	....	6	2	3	6	1	4	6	2	5	7	3	5
							1824	1852	1880	....	4	7	1	4	6	2	4	7	3	5	1	3
							1828	1856	1884	....	2	5	6	2	4	7	2	5	1	3	6	1

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1	2	3	4	5	6	7
Monday.... 1	Tuesday ... 1	Wednesday. 1	Thursday .. 1	Friday 1	Saturday... 1	*Sunday*.... 1
Tuesday.... 2	Wednesday. 2	Thursday .. 2	Friday 2	Saturday... 2	*Sunday*.... 2	Monday.... 2
Wednesday. 3	Thursday .. 3	Friday 3	Saturday... 3	*Sunday*.... 3	Monday.... 3	Tuesday ... 3
Thursday .. 4	Friday 4	Saturday... 4	*Sunday*.... 4	Monday.... 4	Tuesday ... 4	Wednesday. 4
Friday 5	Saturday... 5	*Sunday*.... 5	Monday.... 5	Tuesday ... 5	Wednesday. 5	Thursday .. 5
Saturday... 6	*Sunday*.... 6	Monday.... 6	Tuesday ... 6	Wednesday. 6	Thursday .. 6	Friday 6
Sunday.... 7	Monday.... 7	Tuesday ... 7	Wednesday. 7	Thursday .. 7	Friday 7	Saturday... 7
Monday.... 8	Tuesday.... 8	Wednesday. 8	Thursday .. 8	Friday 8	Saturday... 8	*Sunday*.... 8
Tuesday ... 9	Wednesday. 9	Thursday .. 9	Friday 9	Saturday... 9	*Sunday*.... 9	Monday.... 9
Wednesday.10	Thursday...10	Friday 10	Saturday...10	*Sunday*....10	Monday....10	Tuesday ...10
Thursday...11	Friday 11	Saturday...11	*Sunday*....11	Monday....11	Tuesday ...11	Wednesday.11
Friday 12	Saturday...12	*Sunday*....12	Monday....12	Tuesday ...12	Wednesday.12	Thursday ..12
Saturday ...13	*Sunday* 13	Monday....13	Tuesday ...13	Wednesday.13	Thursday ..13	Friday 13
Sunday ...14	Monday....14	Tuesday ...14	Wednesday.14	Thursday ..14	Friday 14	Saturday...14
Monday....15	Tuesday....15	Wednesday.15	Thursday ..15	Friday 15	Saturday...15	*Sunday*....15
Tuesday ...16	Wednesday.16	Thursday ..16	Friday 16	Saturday...16	*Sunday*....16	Monday....16
Wednesday.17	Thursday...17	Friday 17	Saturday...17	*Sunday*....17	Monday....17	Tuesday....17
Thursday...18	Friday 18	Saturday...18	*Sunday*....18	Monday....18	Tuesday ...18	Wednesday.18
Friday 19	Saturday...19	*Sunday*....19	Monday....19	Tuesday ...19	Wednesday.19	Thursday ..19
Saturday...20	*Sunday*....20	Monday....20	Tuesday ...20	Wednesday.20	Thursday . 20	Friday 20
Sunday....21	Monday....21	Tuesday ...21	Wednesday.21	Thursday ..21	Friday 21	Saturday...21
Monday....22	Tuesday ...22	Wednesday.22	Thursday ..22	Friday 22	Saturday...22	*Sunday*....22
Tuesday ...23	Wednesday.23	Thursday ..23	Friday 23	Saturday...23	*Sunday*....23	Monday....23
Wednesday.24	Thursday ..24	Friday 24	Saturday...24	*Sunday*....24	Monday....24	Tuesday....24
Thursday...25	Friday 25	Saturday...25	*Sunday*....25	Monday....25	Tuesday ...25	Wednesday.25
Friday 26	Saturday ...26	*Sunday*....26	Monday....26	Tuesday ...26	Wednesday.26	Thursday ..26
Saturday...27	*Sunday*....27	Monday....27	Tuesday ...27	Wednesday.27	Thursday ..27	Friday 27
Sunday....28	Monday....28	Tuesday ...28	Wednesday.28	Thursday ..28	Friday 28	Saturday...28
Monday ...29	Tuesday ...29	Wednesday.29	Thursday ..29	Friday 29	Saturday...29	*Sunday*....29
Tuesday....30	Wednesday.30	Thursday ..30	Friday 30	Saturday...30	*Sunday*....30	Monday....30
Wednesday.31	Thursday ..31	Friday 31	Saturday...31	*Sunday*....31	Monday....31	Tuesday ...31

THE LIBERTY BELL.

The Philadelphia *News* gives some interesting particulars of the history of the Independence Bell:

The order for the bell was given in 1751. The State House of Pennsylvania, in Philadelphia, work on which had been suspended for a number of years, was then approaching completion. The lower floors were already occupied by the Supreme Court in the chamber, while in the other assembled the Freemen of the Province of Pennsylvania, then consisting of one body. A committee was appointed by the Freemen, with Peter Norris as chairman, and empowered to have a new bell cast for the building. The commission for the bell was in the same year awarded to Robert Charles, of London, the specification being that the bell should weigh about 2,000 pounds and cost £100 sterling. It was to be made by the best workmen, to be examined carefully before being shipped, and to contain, in well-shaped letters around it, the inscription: "By order of the Province of Pennsylvania, for the State House in the City of Philadelphia, 1752." An order was given to place underneath this the fatal and prophetic words from Leviticus xxv. 10: "Proclaim liberty throughout the land and to all the inhabitants thereof."

The reason for the selection of this text has been a subject of much conjecture, but the true reason is apparent when the full text is read. It is as follows: "And ye shall hallow the fiftieth year and proclaim liberty throughout the land and to all the inhabitants thereof." In selecting the text the good Quakers had in memory the arrival of William Penn and their forefathers more than half a century before.

In August, 1752, the bell arrived, but though in *apparent good* order, it was cracked by a stroke of the *clapper while* being tested. It could not be sent back.

as the captain of the vessel who had brought it over could not take it on board. Two skillful men undertook to recast the bell, which, on being opened, revealed a bell which pleased very much. But it was also found to be defective. The original bell was considered too high, and a quantity of copper was added to the composition, but too much copper was added. There were a great many witticisms on account of the second failure, and the ingenious workmen undertook to recast the bell, which they successfully did, and it was placed in condition in June, 1753.

On Monday, the 8th of July (not the 4th), at noon, true to its motto, it rang out the memorable message of "Liberty throughout the land and to all the inhabitants thereof."

For fifty years the bell continued to be rung on every festival and anniversary until it eventually cracked.

An ineffectual attempt was made to cause it to continue serviceable by enlarging the cause of its dissonance and chipping the edges. It was removed from its position in the tower to a lower story, and only used on occasions of public sorrow, such as the death of ex-Presidents and statesmen. Subsequently it was placed on the original timbers in the vestibule of the State House, and in 1873 it was suspended in a prominent position immediately beneath where a larger bell presented to the city in 1866 now proclaims the passing hours.

CHOLERA.

CHOLERA.— Known in its native country, India, under the names Morshi, Mordeshi and Visuchika; first appeared in Europe in 1831; was first introduced into Canada and the United States in 1832, spread as an epidemic, and lasted in some localities until 1835.

Second European epidemic began in 1847; reached New York and New Orleans in December, 1848; Canada in April, 1849; continuing epidemically in the United States until 1852; almost died out in Europe at the close of 1850, but broke out afresh in 1852, and was again imported into this country in 1853, not entirely disappear until 1855.

Third epidemic in Europe began in 1865 Ward's Island, New York, in November, but gion not fairly introduced into the United Stat spring of 1866; died out here in 1867, and in n pean countries in 1869–70; a fresh outbreak th reached this country again in February, 187 spread from New Orleans and involved ninet in eight months.

Fourth epidemic followed a violent outbreak in 1883 (the "Damietta outbreak"); cases at in October, but existence concealed; declare at Toulon in June, 1884; spread throughout France, thence into Italy; existence suspected but denied during the winter of 1884–85, but spring and summer of 1885 it invaded nearly a the kingdom, causing over one hundred thousa attacked Italy again during the autumn, and a of 1885 was reported in Venice, Trieste and in ince of Brittany. Cases were reported in va parts of Europe, but no spread resulted, exc countries named. So far as known, only on vessel arrived in this country; deaths from c occurred during the voyage, but the vessel wa cared for on her arrival in New York Bay, lat September, 1885.

The first European epidemic lasted *seven* ye 1831 to 1837, inclusive—dying out during col and reappearing in spring in previously infected and thence spreading to localities which had escaped; in many instances more severely scour ities in the second or subsequent years than first visitation. The second epidemic lasted years—1847 to 1863—with a remarkable inte 1851–52, and numerous fluctuations of inte severest in 1849–50 and in 1853–55. The t *ten* years—1865 to 1874—with a remission i *and a fresh* outbreak in 1871. In all of them *was brought* to the United States within two *it had be*come epidemic in countries in close *relation* with this conntry, and in each e *were several* distinct importations of the c

DUCTION—*That whenever*, and as

cholera exists on the European continent, this country is in danger of a cholera epidemic.

Three things are necessary for a cholera epidemic:

First, the cholera poison; second, filthy local conditions of air, soil and water; third, individual predisposition. If, by quarantine, the poison can be kept out of the country, the other-two factors might be disregarded. But since the most rigidly enforced quarantines have heretofore failed to prevent the introduction of the poison, it is essential that such measures of local and individual sanitation be enforced as will secure cleanliness of person, of habitation and of surroundings—of air, water and soil. Certain of these conditions the individual can only indirectly control, but for his own immediate environment, his dwelling and premises and his personal hygiene, he is himself responsible. And these conditions have much to do with determining the individual predisposition.

Cholera is most surely guarded against by keeping the body clean and well nourished, and the mind equable and contented; underfeeding, anxiety, overwork, exposure to extremes of temperature, intemperance in eating or drinking—all tend to reduce the resistance of the system to the influence of any morbid poison, and more especially that of cholera.

If cholera should, unfortunately, make its appearance, the following most important precaution should be observed:

No diarrhea, or even lax condition of the bowels, should be disregarded while there is a single case of cholera in the country. An attack of cholera is usually preceded by a loose, painless diarrhea, although less frequently one may pass from apparently perfect health after a single dejection into the state of cholera collapse. But, as a rule, there is the premonitory stage above indicated, and which may last from one to five days. Such attacks, if promptly and properly treated, may almost *invariably be cured,* but if neglected, may develop into *malignant cholera.*

TREATMENT.—First, absolute rest; second, a teaspoo *ful of the following* mixture every two hours until *diarrhea is* checked:

CHOLERA MIXTURE.

Aromatic sulphuric acid........	One ounce.
Paregoric.....................	Three ounces.

Dose.— One teaspoonful in four tablespoonfuls of water.

This is the simplest and most generally useful combination, and should be kept ready for use in the house, office, store and workshop during a cholera season.

A good doctor should be called, but the above treatment is to be followed until the doctor arrives. Meantime take no food or stimulants of any kind, but allay thirst with ice.

Preventive.—In addition to ordinary prudence in diet and drink, especial care should be taken as to the quality of drinking-water used. If not known to be absolutely pure, add a teaspoonful of aromatic sulphuric acid (elixir of vitriol) to one quart of water. Epidemics of cholera have been arrested, when every other means failed, by using water thus acidulated. It may be flavored with lemons and sweetened.

There is good reason for believing that the cholera poison is absolutely destroyed by mineral acids. It would be well, therefore, to confine the drink exclusively to this mineral-acid lemonade so long as there is any danger of cholera. No other single precaution is of so much importance as this.

POISONS—ANTIDOTES AND TREATMENT.

Immediately on discovering that poison has been swallowed, send for a physician with all possible haste. Until his arrival, the treatment should either be with a view to removing the poison by an emetic or neutralizing its effects by an antidote.

Emetics. — Ground mustard, a tablespoonful in a tumbler of warm water, is an emetic usually quickly procured Give the patient one-fourth of it at once, and follow with a cup of warm water. Repeat the dose every minute or two until vomiting takes place. Give tepid water freely. Mustard has a special value in mos ases where an emetic is needed, as it is also stimulati its effects.

Common salt is also used as an emetic, a teacup of water with as much salt as the water will dissolve being given every few moments until vomiting occurs.

Tickling the throat with a feather, or with the finger, is a valuable aid to the action of an emetic.

After vomiting takes place, the white of eggs in warm water, warm milk, gum-arabic water, or flour and water, may be given to further cleanse the stomach and to soothe the irritated mucous membrane.

The following table gives the common poisons and suggestions as to the treatment for each, and, together with the above, may be of assistance until the arrival of a physician:

ACIDS—MINERAL.—Chalk, magnesia (plaster off wall), solution of cooking soda, or saleratus; then barley-water, linseed-tea, or olive-oil.

ACONITE.—Emetics, stimulants external and internal.

ANTIMONY.—Strong tea in large quantities.

AQUA FORTIS.—Same as *Acids, Mineral.*

ARSENIC.—Give milk in large quantities, or the white of eggs, or flour and water. Follow with stimulants.

ATROPIA.—Same as *Belladonna.*

ARGENTI NIT.—Large teaspoonful of salt in cup of water; repeat in ten minutes; then give castor-oil and linseed-tea or barley-water.

BAD FISH OR OTHER FOOD.—Emetics; then a large dose of castor-oil with some warm spice. Mustard-plaster to pit of stomach if necessary.

BED-BUG POISON.—Same as *Corrosive Sublimate.*

BLUE VITRIOL.—Same as *Cupri Sulph.* and *Copper.*

CANNABIS INDICA.—Hot brandy and water, lemon-juice, vegetable acids, vinegar; allow patient to sleep; blister to nape of neck.

CANTHARIDES.—Emetics, followed by barley-water, flaxseed-tea, or other soothing drinks.

CARBOLIC ACID.—Castor or olive-oil.

CAUSTIC POTASH.—Same as *Potash.*

CAUSTIC SODA.—Same as *Potash.*

CHLORINE WATER.—Albumen (white of eg milk, flour.

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CANTHARIDES.—Emetics, followed by barley-water, flaxseed-tea, or other soothing drinks.
CARBOLIC ACID.—Castor or olive-oil.
CAUSTIC POTASH.—Same as *Potash.*
CAUSTIC SODA.—Same as *Potash.*
CHLORINE WATER.—Albumen (white of egg *milk, flour.*

CHLOROFORM.—Fresh air; incline the body so as to get the head as low as possible; pull the tongue forward; dash cold water on the chest at intervals and excite respiration by any other means.

CHLORIDE OF TIN.—Milk in large quantities with magnesia, chalk or whiting in it; raw eggs beaten up with water or milk.

CHLORAL HYDRATE.—Same as *Chloroform.*

CHLORIDE OF ZINC.—Milk with white of eggs in it. Large Doses.

COBALT.—Same as *Arsenic.*

COLCHICUM.—Emetics; then barley water, linseed-tea, etc. If stupor (*coma*) be present, give brandy, coffee, ammonia.

CONIUM.—Emetics, followed by stimulants externally and internally.

COPPER.—Milk and whites of eggs; large quantities; then strong tea. Don't give vinegar.

COPPERAS.—Emetics. Mucilaginous drinks.

CORROSIVE SUBLIMATE.—White of eggs in a little water. Repeat dose at intervals of two or three minutes until patient vomits. Use milk or flour and water if you can't get eggs.

CROTON OIL.—Emetics; then flaxseed-tea, gum-arabic water, slippery elm, etc.

CUPRI SULPH.—Whites of eggs. Same as *Copper.*

CYANIDE OF POTASSIUM.—Same as *Prussic Acid.*

DIGITALIS.—Emetics. Keep the patient lying down. Stimulants externally and internally.

FOWLER'S SOLUTION.—Same as *Arsenic.*

HASCHISCH.—Same as *Cannabis Indica.*

HEMLOCK.—Same as *Conium.*

HENBANE.—Same as *Hyoscyamus.*

HYDROCYANIC ACID.—Fresh air and artificial respiration, with dashes of cold water.

HYOSCYAMUS.—Emetics; lemon-juice stimulants external and internal.

INDELIBLE INK.—Same as *Argenti* Nit.

INDIAN HEMP.—Same as *Cannabis* Indica.

IODINE.—Emetics; starch or flour in water; barley water or other demulcent drinks.

IVY POISONING.—Apply soft-soap freely to affected parts; or bathe the poisoned skin frequently with weak tincture of belladonna.

LAUDANUM.—Same as *Opium.*

LEAD.—Two ounces of Epsom salts in a pint of water; wineglassful every ten minutes until it operates freely. Afterward milk.

LEAD SALTS.—Same as *Lead.*

LEAD WATER.—Same as *Lead.*

LOBELIA.—Stimulants externally and internally.

LUNAR CAUSTIC.—Same as *Argenti Nit.*

LYE.—*Potash.*

MERCURY.—Same as *Corrosive Sublimate.*

MINERAL ACID.—Same as *Acids, Mineral.*

MORPHIA.—Same as *Opium.*

MURIATIC ACID.—Same as *Acids, Mineral.*

NITRATE OF SILVER.—Same as *Argenti Nit.*

NITER.—Same as *Saltpeter.*

NITRIC ACID.—Same as *Acids, Mineral.*

NUX VOMICA.—Emetics, artificial respiration, linseed tea or barley-water; to an adult 30 drops of laudanum to relieve the spasms.

OIL OF BITTER ALMONDS.—Same as *Prussic Acid.*

OIL OF VITRIOL.—Same as *Acids, Mineral.*

OPIUM.—Emetics (10 grains of sulphate of copper if possible); after vomiting, which must be induced quickly, give plenty of strong coffee with brandy, put mustard plasters around calves of legs; keep patient aroused by walking around, dashing cold water in face, heating soles of feet, or whipping body with towels wrung out in cold water. If the patient is allowed to go to sleep before the effect of the opium has passed off, death will result.

OXALIC ACID.—Same as *Acids, Mineral.*

PAREGORIC.—Same as *Opium.*

PARIS GREEN.—Same as *Arsenic.*

PHOSPHORUS.—Emetics, large quantities of tepid *water, with* magnesia, chalk, whiting, or even flour *stirred in it.*

POTASH.—Vinegar and water, oranges, lemons, beer, cider, or sour fruit; then give oil—linseed or olive.

PRUSSIC ACID.—Sal-volatile and water; apply smelling-salts to nostrils; dash cold water in face; stimulants.

RATSBANE.—Same as *Arsenic.*

RED PRECIPITATE.—Same as *Corrosive Sublimate*

RED LEAD.—Same as *Lead.*

"ROUGH ON RATS."—Same as *Arsenic.*

SALTPETRE.—Flour and water in large doses; linseed or sweet oil.

SALTS OF TIN.—Milk in large quantities.

SILVER, NITRATE OF.—Same as *Argenti Nit.*

SPANISH FLY.—Same as *Cantharides.*

SPIRITS OF SALTS.—Same as *Acids, Mineral.*

STRAMONIUM.—Same as *Belladonna.*

STRYCHNINE.—Same as *Nux Vomica.*

SUGAR OF LEAD.—Same as *Lead Salts.*

SULPHURIC ACID.—Same as *Acids, Mineral.*

SULPHATE OF ZINC.—Same as *Zinc Salts.*

TARTAR EMETIC.—Same as *Antimony.*

TARTARIZED ANTIMONY.—Same as *Antimony.*

TOBACCO.—Emetics; stimulants external and internal.

VERDIGRIS.—Same as *Copper.*

VERMILION.—Same as *Corrosive Sublimate.*

VOLATILE ALKALI.—Same as *Potash.*

WHITE PRECIPITATE.—Same as *Arsenic.*

WHITE VITRIOL.—Same as *Zinc Salts.*

ZINC SALTS.—Give milk with whites of eggs freely; afterward warm barley-water or linseed-tea.

Fortress Monroe is the largest single fortification in the world. It has already cost the Government over $3,000,000. The water battery is considered one of the finest military works in the world.

Leon P. Fredemeyer is credited with having trundled *a wheelbarrow* from San Francisco, Cal., to New York *in 7 months* and 16 days. He arrived in New York July 4, *1879.*

CONTAGIOUS AND ERUPTIVE DISEASES.

It will often relieve a mother's anxiety to know how long after a child has been exposed to a contagious disease that there is danger the disease has been contracted. The following table gives the *period of incubation* — or anxious period — and other information concerning the more important diseases.

Disease.	Symptoms usually appear.	Anxious period ranges from	Patient is infectious.
Chicken-Pox.	On 14th day	10–18 days.	Until all scabs have fallen off.
Diphtheria	" 2d day	2– 5 days.	14 days after dissappearance of membrane
Measles.	" 14th day	10–14 days.	*Until scaling and cough have ceased.
Mumps.	" 19th day	16–24 days.	14 days from commencement.
Rotheln	" 14th day	12–20 days.	10-14 days from commencement.
Scarlet Fever.	" 4th day	1– 7 days.	Until all scaling has ceased.
Small-Pox	" 12th day	1–14 days.	Until all scabs have fallen off.
Typhoid Fever. . . .	" 21st day	1–28 days.	Until diarrhea ceases.
Whooping-Cough. .	" 14th day	7–14 days.	†Six weeks from beginning to whoop.

* In measles the patient is infectious three days before the eruption appears.

† In whooping-cough the patient is infectious during the primary cough, which may be three weeks before the whooping begins.

The following points may help to determine the nature of a suspicious illness:

Rash or Eruption.	Appearance.	Disease.	Duration in days.	Remarks.
Small rose pimples changing to vesicles............	2d day of fever or after 24 hours' illness............	CHICKEN-POX.....	6–7	Scabs form about 4th day of fever.
Diffuse redness and swelling.........	2d or 3d day of illness..	ERYSIPELAS.......		
Small red dots like flea-bites........	4th day of fever or after 72 hours' illness............	MEASLES.........	6–10	Rash fades on 7th day.
Bright scarlet, diffused...	2d day of fever or after 24 hours' illness............	SCARLET FEVER..	8–19	Rash fades on 5th day.
Small red pimples changing to vesicles, then pustules	3d day of fever or after 48 hours' illness............	SMALL-POX..... .	14–21	Scabs form 9th or 10th day, fall off about 14th.
ose colored spots, ered........	7th to 14th day....	TYPHOID FEVER ..	22–30	Accompanied by diarrhea.

DIGESTION.

time required for the digestion of various food :

	Hours.	Min.
veet (boiled)	2	30
iled)	2	
ma (boiled)	2	30
sted)	3	
d)	4	
(boiled)	2	45
	3	30
	3	30
	3	30
fricasseed)	2	40
aked)	2	45
sted)	4	
v)		
t-boiled)	3	
rd-boiled)	3	30
d)	3	30
ous kinds (raw, boiled, fried)	2	44
st)	4	
eat and vegetables (warm)	2	30
iled)	2	30
r)	2	15
led)	2	
oiled)	3	
oast)	3	15
oast)	3	15
stewed)	3	30
soused (boiled)	1	
(baked)	2	30
(stewed)	3	
st)	3	15
ed)	1	
led)	1	45
ley	1	30
ken, etc. (average)	3	15
ed (boiled)	1	
ast)	2	30
d)	4	
	4	30

THE PULSE.

The natural rate of the pulse varies at different ages as follows:

	Beats per Minute.
At birth	130—140
One year	115—130
Two years	100—115
Three years	95—105
Four to seven years	85— 95
Seven to fourteen years	80— 90
Fourteen to twenty-one years	75— 85
Twenty-one to sixty years	70— 75
Old age	75— 85

Dates of First Occurrences.

Postoffices were first established in 1464.

Printed musical notes were first used in 1473.

The first watches were made at Nuremberg in 1477.

America was discovered in 1492.

The first printing press was set up at Copenhagen in 1493.

Durer gave the world a prophecy of future wood-engraving in 1527.

Jergens set the spinning wheel in motion in 1530.

Modern needles first came into use in 1545.

The first knives were used in England, and the first wheeled carriages in France, in 1559.

Religious liberty was granted to the Huguenots in France in 1562, and was followed by the massacre of St. Bartholomew in 1572.

Cervantes wrote Don Quixote in 1573.

The first newspaper was published in England in 1588.

Telescopes were invented in 1590.

The first printing press in the United States was introduced in 1629.

The first air-pump was made in 1650.

The first newspaper advertisement appeared in 1652.

The first copper cent was coined in New Haven in 1687.

The first steam-engine on this continent came from England in 1753.

The first balloon ascent was made in 1783.

The first society for the Promotion of Christian Knowledge was organized in 1698.

The first attempt to manufacture pins in this country was made *soon after* the war of 1812.

The first prayer-book of Edward VI. came into use by authority of *Parliament* on Whit-Sunday, 1549.

Glass windows first introduced into England in the eighth century.

The first steamboat plied the Hudson in 1807.

The first sawmakers' anvil was brought to America in 1819.

The first use of a locomotive in this country was in 1820.

Kerosene was first used for lighting purposes in 1826.

The first horse railroad was built in 1826–7.

The first lucifer match was made in 1829.

The first iron steamship was built in 1830.

The first steel pen was made in 1830.

Omnibuses were introduced in New York in 1830.

Ships were first "copper-bottomed" in 1837.

Envelopes were first used in 1839.

Anæsthesia was discovered in 1844.

Coaches were first used in England in 1569.

The first steel-plate was discovered in 1830.

The Franciscans arrived in England in 1224.

The entire Hebrew Bible was printed in 1488.

Gold was first discovered in California in 1848.

The first telescope was used in England in 1608.

Christianity was introduced into Japan in 1549.

First almanac printed by George Von Furbach in 1460.

Percussion arms were used in the United States Army in 1830.

The first glass factory in the United States was built in 1780.

The first complete sewing-machine was patented by Elias Howe, Jr., in 1846.

The first temperance society in this country was organized in Saratoga County, N. Y., in March, 1808.

The first coach in Scotland was brought thither in 1501, when Queen Mary came from France. It belonged to Alexander Lord Seaton.

The first daily newspaper appeared in 1702. The first newspaper printed in the United States was published in Boston on September 25, 1790.

The first telegraphic instrument was successfully operated by S. F. B. Morse, the inventor in 1835, though its utility was not demonstrated to the world until 1842.

The first Union flag was unfurled on the 1st of January, 1776, over the camp at Cambridge. It had thirteen stripes of white and red, and retained the English cross in one corner.

When Captain Cook first visited Tahiti, the natives were using nails of wood, bone, shell and stone. When they saw iron nails, they fancied them to be shoots of some very hard wood, and, desirous of securing such a valuable commodity, they planted them in their gardens.

In 1750 the "shoe-black" came into vogue. The poet Gay, in his day, refers *to the business*, describing a mother as instructing *her son in his calling:*

"*Go thrive:* at some frequented corner stand;
This brush I give thee, grasp it in thy hand;
Temper the foot within this vase of oil,
And let the little tripod aid thy toil"

HIGH-PRICED HORSES.

Mr. A. E. Whyland, of New York city, has prepared a list of the high-priced horses that have been sold in this country, from which we take the following:

TROTTERS SOLD AT $20,000 OR OVER.

Axtell	$105,000	Gov. Sprague	$27,500
Bell Boy	51,000	Patron	27,000
Steamboul	50,000	Mascot	26,000
Sunol	40,000	Fearnaught	25,000
Acolyte	40,000	Jerome Eddy	25,000
Maud S	40,000	Wedgewood	25,000
Pocahontas	40,000	Geo. M. Patchen	25,000
Rarus	36,000	Happy Medium	22,500
Antevolo	35,000	Nutwood	22,000
Dexter	35,000	Sam Purdy	22,000
Goldsmith Maid	32,000	Startle	22,000
Smuggler	30,000	Edward Everett	20,000
Anteeo	30,000	Edward	20,000
Blackwood	30,000	St. Julien	20,000
Jay Gould	30,000	Lady Maud	20,000
Lady Thorne	30,000	Socrates	20,000
Prince Wilkes	30,000	Constantine	20,000
Pancoast	28,000	Resalind	20,000

RUNNERS SOLD AT $20,000 OR OVER.

In America.		*In England.*	
Kentucky	$40,000	Ormonde	$75,000
King Thomas	40,000	Doncaster	70,000
Dewdrop	29,500	Kangaroo	70,000
Brother of Bassett	25,000	Blair Athol	62,500
Vigil	25,000	Harvester	43,000
Duke of Magenta	20,000	Gladiator	35,000
Ban Fox	20,000	Isonomy	30,000
Iroquois	20,000	Spinaway	27,500
Foxhall	20,000	Wheel of Fortune	25,000
		Janette	21,000
		Cantiniere	20,500
		Louisburg	20,000

Legal Holidays in the Various States.

JANUARY 1. NEW YEAR'S DAY: in Alabama, California, Colorado, Connecticut, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Louisiana, Maine, Michigan, Minnesota, Mississippi, Missouri, Nebraska, Nevada New Jersey, New York, Ohio, Pennsylvania, South Carolina, Tennessee, Texas, Vermont, Virginia, West Virginia, and Wisconsin.

JANUARY 8. ANNIVERSARY OF THE BATTLE OF NEW ORLEANS: in Louisiana.

FEBRUARY 22. WASHINGTON'S BIRTHDAY: in California, Colorado, Connecticut, Florida, Georgia, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, South Carolina, Texas, Virginia, West Virginia, and Wisconsin.

MARCH 2. ANNIVERSARY OF TEXAN INDEPENDENCE: in Texas.

MARCH 4. FIREMAN'S ANNIVERSARY: in New Orleans, La.

MARDI-GRAS: in Louisiana, and the cities of Mobile, Montgomery and Selma, Ala.

APRIL 21. ANNIVERSARY OF THE BATTLE OF SAN JACINTO: in Texas.

GOOD FRIDAY: in Louisiana, Maryland, Minnesota, and Pennsylvania.

APRIL 26. MEMORIAL DAY: in Georgia.

MAY 3c. DECORATION DAY: in California, Colorado, Connecticut, Iowa, Massachussetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont.

JULY 4. INDEPENDENCE DAY: in all the States.

GENERAL ELECTION DAY: in California, Florida, *Maryland, Missouri.* New Jersey, New York, South *Carolina, Texas* and Wisconsin.

THANKSGIVING DAY: in all the States.

DECEMBER 25. CHRISTMAS DAY: in all the States.

Sundays and Fast Days (whenever appointed) ar *al holidays in all* the States.

RAILROAD MILEAGE OF THE WORLD.

(Compiled from the latest Official Reports.)

COUNTRIES.	Year.	Miles Line.
Algeria	1884	
Argentine Republic	1884	3,
Austria-Hungary	1884	12,
Belgium	1883	2,
Bolivia	1883	
Brazil	1884	5,
Bulgaria	1884	
Canada	1884	9,
Cape of Good Hope	1884	1,
Chili	1883	1,
China	1883	
Colombia	1883	
Costa Rica	1884	
Cuba	1883	1,
Denmark	1884	1,
Dutch East Indies	1882	
Ecuador	1884	
Egypt	1884	1,
France	1884	17,
Germany	1884	22,
Great Britain and Ireland	1884	18,
Greece	1883	
Guatemala	1883	
Hawaii	1884	
Honduras	1883	
India, British	1884	10
Italy	1883	5
Japan	1884	
Luxemburg	1883	
Mexico	1885	
Netherlands	1884	
New South Wales	1884	

ILROAD MILEAGE OF THE WORLD.

(*Continued.*)

COUNTRIES.	Year.	Miles of Line.
Zealand	1884	1,486
agua	1882	33
ay	1885	971
uay	1885	45
	1883	2,030
gal	1884	950
nsland	1884	1,038
nania	1884	850
a	1883	15,274
Salvador	1883	33
a	1884	208
Australia	1884	991
	1885	6,904
en	1884	4,000
erland	1883	1,810
ania	1884	167
	1883	200
ey	1882	1,076
d States	1887	137,986
uay	1885	271
ria	1884	1,562
ern Australia	1884	55
Total mileage		287,557

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RAILROAD STATISTICS.

MILEAGE, CAPITAL, DEBT AND COST OF RAILROADS IN THE UNITED STATES.

STATES.	Miles of Line.	Miles of Line Work'd	CAPITAL ACCOUNT.			Cost of Railroad and Equipment.
			Capital Stock	Funded Debt.	Total Investment.	
New England	6,437	6,430	$ 202,673,477	$ 143,792,350	$ 360,594,016	$ 335,636,655
Middle States	19,201	18,307	1,064,895,370	1,036,068,287	2,205,352,534	1,706,952,685
Southern States	21,376	18,452	467,097,903	489,778,278	975,108,593	916,487,022
Western States	78,948	75,655	1,998,696,761	1,993,681,315	4,125,916.256	1,783,999,194
Pacific States	7,642	6,339	266,144,907	219,646,100	496,177,253	478,053,495
Total U. S., Jan., 1888	133,606	125,185	$3,999,508,508	$3,882,966,330	$8,163,148,652	$7,254,995,223

The above table and the two following ones are compiled from Poor's Manual of the Railroads of the United States.

SURVIVING ARMY GENERALS.

The death of Gen. Sherman renews interest in the diminishing list of those still living who held high rank in the war for the Union.

Of army commanders there are Gen. Rosecrans and Gen. Buell, Army of the Cumberland; Gen. Schofield, Army of the Ohio; Gen. Butler, Army of the James; Gen. Pope, Army of Virginia; Gen. John G. Parke, Army of the Potomac; Gen. Banks, the Army of the Gulf and in the Shenandoah; Gen. Howard, the Army of the Tennessee, and Gen. Slocum, the Army of Georgia.

Of these Gen. Schofield is in command of the army, Gen. Rosecrans is Register of the Treasury, Gen. Buell resides in Kentucky, Gen. Pope is on the retired list and resides in St. Louis, Gen. Parke is on the retired list, hale and hearty. He commanded the Army of the Potomac temporarily and the Ninth Corps, both at the East and the West. Gen. Banks is a Representative in Congress, Gen. Howard is stationed in New York, and Gen. Slocum resides in Brooklyn.

STATES.	GROSS EARNINGS.				Interest paid on Bonds.	Dividend paid on Stock.
	From Passengers.	From Freight.	From all Sources.	Net Earnings		
New England	$25,678,097	$ 29,450,680	$ 58,558,913	$ 16,513,814	$ 7,204,380	$ 9,117,661
Middle States	54,581,157	151,123,136	222,307,819	77,150,187	50,536,215	37,216,495
Southern States	21,213,506	43,678,825	69,857,988	23,831,483	18,971,461	3,241,356
Western States	93,983,421	257,768,506	377,964,310	135,716,991	80,994,343	39,319,133
Pacific States	11,334,520	20,848,763	34,617,578	13,801,436	9,579,740	4,309,190
Total U. S., January, 1885	$206,790,701	$502,869,910	$763,306,608	$266,513,911	$167,286,139	$93,203,835
" " " 1886	200,893,911	509,690,992	765,310,419	266,488,993	179,681,323	77,672,105
" " " 1887	211,929,857	550,359,054	822,191,949	297,311,615	182,884,990	80,094,138

AMERICAN WARS.

Algerine War	1815
American Revolution	1775
Barbary War	1803
Dutch War	1673
Queen Anne's War	1744
King William's War	1689
Indian War	1790
King Philip's War	1675
First Seminole War	1817
Second Seminole War	1835
Tecumseh War	1804
War of 1812	1812
The Southern Rebellion	1861
Mexican War	1846
French and Indian War	1754

RAILROAD STATISTICS.

MILEAGE, CAPITAL, DEBT AND COST OF RAILROADS IN THE UNITED STATES.

STATES.	Miles of Line.	Miles of Line Work'd	CAPITAL ACCOUNT.			Cost of Railroad and Equipment.
			Capital Stock	Funded Debt.	Total Investment.	
New England..............	6,437	6,430	$ 202,673,477	$ 143,792,350	$ 360,594,016	$ 335,636,655
Middle States..............	19,201	18,307	1,064,895,370	1,036,068,287	2,205,352,534	1,706,952,635
Southern States.....	21,376	18,452	467,097,903	489,778,278	975,108,593	916,487,022
Western States......	78,948	75,655	1,998,696,761	1,993,681,315	4,125,916.256	1,783,999,194
Pacific States..............	7,642	6,339	266,144,907	219,646,100	496,177,253	478,053,495
Total U. S., Jan., 1888....	133,606	125,185	$3,999,508,508	$3,882,966,330	$8,163,148,652	$7,254,995,223

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IN THE UNITED STATES.

States.	Gross Earnings.				Interest paid on Bonds.	Dividend paid on Stock.
	From Passengers.	From Freight.	From all Sources.	Net Earnings		
New England	$25,678,097	$ 29,450,680	$ 58,558,913	$ 16,513,814	$ 7,204,380	$ 9,117,661
Middle States	54,581,157	151,123,136	222,307,819	77,150,187	50,536,215	37,216,495
Southern States	21,213,506	43,678,825	69,857,988	23,831,483	18,971,461	3,241,356
Western States	93,983,421	257,768,506	377,964,310	135,716,991	80,994,343	39,319,133
Pacific States	11,334,520	20,848,763	34,617,578	13,801,436	9,579,740	4,309,190
Total U. S., January, 1885	$206,790,701	$502,869,910	$763,306,608	$266,513,911	$167,286,139	$93,203,835
" " " 1886	200,893,911	509,690,992	765,310,419	266,488,993	179,681,323	77,672,105
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AMERICAN WARS.

Algerine War	1815	First Seminole War	1817
American Revolution	1775	Second Seminole War	1835
Barbary War	1803	Tecumseh War	1804
Dutch War	1673	War of 1812	1812
Queen Anne's War	1744	The Southern Rebellion	1861
King William's War	1689	Mexican War	1846
Indian War	1790	French and Indian War	1754
King Philip's War	1675		

COMPARATIVE STATISTICS OF RAILROADS IN THE UNITED STATES.

1879-1890.

Year Ending.	Capital Stock.	Miles Line Worked.	Funded Debt.	Gross Earnings.	Net Earnings.	Interest Paid.	Dividends Paid.
1879......	$2,395,657,293	79,009	$2,319,489,172	$ 525,620,577	$ 216,544,999	$ 112,237,515	$ 61,681,470
1880.... .	2,708,673,375	82,146	2,530,874,943	613,733,610	255,557,555	107,866,328	77,115,371
1881......	3,177,375,179	92,971	2,878,423,606	701,780,982	272,506,787	128,587,302	93,344,190
1882......	3,511,035,824	104 971	3,235,543,323	770,209,899	280,316,696	154,295,380	102,031,534
1883......	3,708,060,583	110,414	3,500,879,914	823,772,924	293,367,285	173,139,064	102,052,584
1884......	3,762,616,686	115,672	3,669,115,772	770,684,908	268,106,258	176,694,302	93,203,852
1885......	3,817,697,832	123,330	3,765,727,066	772,568,833	269,493,931	187,426,035	77,672,105
1886	3,999,508,508	125,185	3,882,966,330	829,940,836	300,603,564	189,036,304	81,654,138
1887......	4,191,562,029	137,028	4,186,943,116	940,150,702	334,989,119	203,790,352	91,573,458
1888	4,438,411,342	145,387	4,624,035,023	960,256,270	301,631,051	207,124,288	80,243,041
1889	4,495,099,318	152,745	4,828,365,771	1,003,736,596	322,284,986	219,877,150	81,264,029

In the seventh century the imperial palace of China had 80,000 volumes in it. In the fifteenth century 2,000 royal commissioners condensed the vast mass of Chinese learning and literature into 23,000 volumes of manuscript, but it still remains unprinted. In 1726 another condensation was attempted, which was published in 5,000 volumes. A complete copy of this very comprehensive and valuable work has been secured for the British Museum, whose own amazing catalogue scarcely eclipses that of the imperial library published at the close of the eighteenth century, and enumerating upward of 173,000 volumes on all branches of literature, without including works of fiction, dramas, or any books relating to the Taoust or Buddhist religions. It is, however, necessary to add that the majority of these books are little more than mere commentaries, by intellectual pigmies of modern days, on the writings of men possessed of a far wider range of thought and freer imagination than these their cramped descendants.

Shrinkage of Castings.

Locomotive cylinders—One-sixteenth inch in a foot.
Tin—One-fourth inch in a foot.
Thin Brass—One-eighth inch in nine inches.
Thick Brass—One-eighth inch in ten inches.
Zinc—Five-sixteenths inch in a foot.
Copper—Three-sixteenths inch in a foot.
Bismuth—Five-thirty-seconds inch in a foot.
Lead—Five-sixteenths inch in a foot.
Beams, Girders, etc.—One-eighth inch in fifteen inches.
Pipes—One-eighth inch in a foot.
Engine-beams, Connecting-rods, etc.—One-eighth inch in s teen inches.

Telegraph Statistics of the World.

COUNTRIES.	Year.	Miles of Lines.	Miles of Wires.	No. of Message
Algeria	1882	3,645	8,678	....
Austria-Hungary	1883	32,684	95,188	9,974,
Bavaria	1883	5,215	22,848	....
Belgium	1884	3,713	16,830	7,039,
Bolivia	1881	182	364	.....
Brazil	1883	4,888	8,533	338,
Bulgaria	1883	1,325	1,975	311,
Canada	1883	23,330	....	.....
Cape of Good Hope	1883	4,031	....	679,
Chili	1884	6,840	13,680	.....
China	1885	3,089	5,482	.....
Columbia	1883	2,357	4,714	.....
Costa Rica	1883	450	726	.....
Cuba	1882	2,835	5,987	.....
Denmark	1882	2,283	6,316	1,216,
Dutch East Indies	1882	3,682	....	412,
Egypt	1885	3,222	5,283	.....
France	1883	46,932	145,282	26,174,
Germany	1883	47,637	170,960	18,377,
Great Britain and Ireland	1884	27,604	140,498	31,84
Greece	1883	3,720	3,890	.....
Guatemala	1884	2,880	....	223
Hawaii	1884	175	350	...
Honduras	1884	1,800	....	[illegible]
India, British	1883	[illegible]	62,830	[illegible]

TELEGRAPH STATISTICS, ETC.—(Continued).

COUNTRIES.	Year.	Miles of Lines.	Miles of Wires.	No. of Messages.
Italy	1883	17,258	....	6,454,942
Japan	1883	4,733	12,470	2,784,287
Luxemburg	1883	196	372	....
Mexico	1884	19,000	58,800	....
Montenegro	1884	280	....	....
Netherlands	1864	2,660	15,714	3,228,442
New South Wales	1883	10,000	17,272	2,107,288
New Zealand	1884	4,074	10,037	1,299,400
Nicaragua	1882	800	....	....
Norway	1884	5,629	10,075	912,634
Orange Free State	1883	276	352	....
Paraguay	1883	45	90	....
Persia	1880	3,647	5,947	500,000
Peru	1878	550	1,183	....
Portugal	1883	2,920	7,084	1,122,548
Queensland	1883	6,614	10,617	917,605
Roumania	1883	3,000	6,240	1,244,435
Russia	1883	65,726	148,532	10,222,664
San Salvador	1883	750	1,000	....
Servia	1882	1,405	2,035	....
South Australia	1883	5,278	8,824	....
Spain	1883	10,733	26,160	3,019,831
Sweden	1884	5,347	12,945	1,209,088
Switzerland	1884	4,270	10,346	2,977,649
Tasmania	1884	1,273	1,543	235,697
Transvaal	1884	110	165	....
Tunis	1884	2,500	....	....
Turkey	1884	14,617	26,060	1,259,133
United States	1885	215,764	638,439	70,000,000
Uruguay	1883	1,405	....	....
Victoria	1884	3,600	7,271	1,474,971
Western Australia	1883	2,359	....	....
Total miles	.....	673,168		

One dollar loaned for 100 years at the following rates of interest compounded will amount to the figures set opposite the per cent. at the end of that time:

3 per cent	$ 19.25
6 " "	340.00
8 " "	2,203.00
10 " "	13,809.00
12 " "	84,675
18 " "	15,145,007
24 " "	2,551,799,404

The moral is—*lend instead of borrow*.

THE WESTERN UNION TELEGRAPH COMPANY.

Statement Exhibiting the Mileage of Lines Operated, Number of Offices, Number of Messages Sent, Receipts, Expenses and Profits for Each Year Since 1866.

YEARS.	Miles of Poles and Cables.	Miles of Wire.	Offices.	Messages,	Receipts.	Expenses.	Profits.
1866	37,380	75,686	2,250				
1867	46,270	85,291	2,565	5,879,282	$6,468,925	$3,944,006	$2,694,920
1868	50,183	97,594	3,219	6,404,595	7,004,560	4,362,849	2,641,711
1869	52,099	104,584	3,607	7,934,933	7,316,918	4,568,117	2,748,801
1870	54,109	112,191	3,972	9,157,646	7,138,738	4,910,772	2,227,966
1871	56,032	121,151	4,606	10,646,077	7,637,449	5,104,787	2,532,662
1872	62,033	131,190	5,237	12,444,499	8,457,096	5,666,863	2,790,233
1873	65,757	154,472	5,740	14,456,832	9,333,019	6,575,056	2,757,963
1874	71,585	175,735	6,188	16,329,256	9,262,654	6,755,734	2,506,920
1875	72,833	179,496	6,565	17,153,710	9,564,575	6,335,415	3,229,158
1876	73,532	183,832	7,072	18,729,567	10,034,984	6,635,474	3,399,510
1877	76,955	194,323	7,500	21,158,941	9,812,253	6,672,223	3,140,128
1878	81,002	206,202	8,014	23,918,894	9,861,355	6,309,813	3,551,543
1879	82,987	211,566	8,534	25,070,106	10,960,640	6,160,200	4,800,440
1880	85,645	233,534	9,077	29,215,509	12,782,895	6,948,957	5,833,938
1881	110,340	327,171	10,837	32,500,000	14,393,544	8,485,264	5,908,280
1882	131,060	374,368	12,068	38,842,247	17,114,166	9,996,096	7,118,070
1883	144,294	432,726	12,917	41,181,177	19,454,903	11,794,553	7,660,350
1884	145,037	450,571	13,761	42,076,226	19,632,940	13,022,504	6,610,436
1885	147,500	462,283	14,184	42,096,583	17,706,834	12,005,910	5,700,924
1886	151,832	489,607	15,142	43,289,807	16,298,639	12,378,783	3,919,855
1887	156,814	524,641	15,658	47,394,530	17,191,910	13,154,629	4,037,281
1888	171,375	616,248	17,241	51,463,955	19,711,164	14,640,592	5,070,572
1889	178,754	647,697	18,470	54,108,326	20,783,194	14,565,153	6,218,041

CURRENCY CIRCULATION.

Comparative statement showing the changes in circulation from July 1, 1887, to November 1, 1888.

	July 1, 1887.	Nov. 1, 1888.	Decrease.	Increase.
Gold coin	$376,758,607	$380,016,817		$3,258,210
Standard silver dollars	55,504,310	59,801,350		4,297,040
Subsidiary silver	48,697,259	52,571,712		3,874,453
Gold certificates	91,225,437	140,613,658		49,388,221
Silver certificates	142,118,017	229,783,152		87,665,135
United States notes	326,667,219	309,867,696	$16,799,523	
National bank notes	276,855,203	235,217,283	41,637,920	
Totals	$1,317,826,052	$1,407,871,668	$58,437,443	$148,483,059
Net increase				$90,045,616

Comparative statement showing the changes in money and bullion held in the Treasury from July 1, 1887, to November 1, 1888.

	July 1, 1887.	Nov. 1, 1888.	Decrease.	Increase.
Gold coin	$192,368,916	$223,209,020		$30,840,104
Standard silver dollars	211,483,970	249,979,440		38,495,470
Subsidiary silver	26,977,494	24,088,769	$2,888,725	
United States notes	20,013,797	36,813,320		16,799,523
National bank notes	2,362,585	4,167,954		1,805,369
Gold bullion	85,732,190	108,479,213		22,747,023
Silver bullion	3,982,472	4,369,972		387,500
Trade-dollars as bullion	6,934,963	6,189,142	745,821	
Totals	$549,856,387	$657,296,830	$3,634,546	$111,074,989
Net increase				$107,440,443

Receipts and Expenditures of the Government.

The following statement shows the ordinary receipts and expenditures for the fiscal year 1890 in comparison with those of the preceding year:

REVENUE AND DISBURSEMENTS.	1889.	1890.	INCREASE.	DECREASE.
Revenue from Customs	$223,832,741.69	$229,668,584.57	$ 5,835,842.88	....
" " Internal revenue	130,881,513.92	142,606,705.81	11,725,191.89	....
" " Sale of public lands	8,038,651.79	6,358,272.51	....	$ 1,680,379.28
" " Miscellaneous sources	24,297,151.44	24,447,419.74	150,268.30	....
Total	387,050,058.84	403,080,982.63	17,711,303.07	1,680,379.28
Net increase	....	....	16,030,923.79	....
Expenditures on account of—				
Civil and miscellaneous:				
Customs, light-houses, public bldgs., etc.	20,154,142.08	19,734,371.91	....	419,770.17
Internal revenue	3,941,466.30	3,928,068.31	....	13,397.99
Interior civil (lands, patents, etc.)	7,359,790.25	8,442,413.14	1,082,622.89	....
Treasury proper (legislative, executive and other civil)	42,847,717,40	43,430,561.05	582,843.65	....
Diplomatic (foreign relations)	1,897,625.72	1,648,276.59	....	249,349.13
Judiciary	4,463,322.51	4,219,565.49	....	243,757.02
War department	44,435,270.85	44,582,838.08	147,567.23	....
Navy departments	21,378,809.31	22,006,206.24	627,396.93	....
Interior department (Indians and pensions)	94,516,986.89	113,644,901.74	19,127,914.85	....
Interest on public debt	41,001,484.29	36,099,284.05	....	4,902,200.24
Premium on public debt	17,292,362 65	20,304,224.06	3,011,861.41	....
Total	299,288,978.25	318,040,710.66	24,580,206.96	5,828,474.55
Net increase	....	....	18,751,732.41	....
urplus	$ 87,761,080.59	$85,040,271.97	....	$ 2,720,808.62

CURRENCY CIRCULATION.

Comparative statement showing the changes in circulation from July 1, 1887, to November 1, 1888.

	July 1, 1887.	Nov. 1, 1888.	Decrease.	Increase.
Gold coin	$376,758,607	$380,016,817	………	$3,258,210
Standard silver dollars	55,504,310	59,801,350	………	4,297,040
Subsidiary silver	48,697,259	52,571,712	………	3,874,453
Gold certificates	91,225,437	140,613,658	………	49,388,221
Silver certificates	142,118,017	229,783,152	………	87,665,135
United States notes	326,667,219	309,867,696	$16,799,523	………
National bank notes	276,855,203	235,217,283	41,637,920	………
Totals	$1,317,826,052	$1,407,871,668	$58,437,443	$148,483,059
Net increase	………	………	………	$90,045,616

Comparative statement showing the changes in money and bullion held in the Treasury from July 1, 1887, to November 1, 1888.

	July 1, 1887.	Nov. 1, 1888.	Decrease.	Increase.
Gold coin	$192,368,916	$223,209,020	………	$30,840,104
Standard silver dollars	211,483,970	249,979,440	………	38,495,470
Subsidiary silver	26,977,494	24,088,769	$2,888,725	………
United States notes	20,013,797	36,813,320	………	16,799,523
National bank notes	2,362,585	4,167,954	………	1,805,369
Gold bullion	85,732,190	108,479,213	………	22,747,023
Silver bullion	3,982,472	4,369,972	………	387,500
Trade-dollars as bullion	6,934,963	6,189,142	745,821	………
Totals	$549,856,387	$657,296,830	$3,634,546	$111,074,989
Net increase	………	………	………	$107,440,443

Receipts and Expenditures of the Government.

The following statement shows the ordinary receipts and expenditures for the fiscal year 1890 in comparison with those of the preceding year:

REVENUE AND DISBURSEMENTS.	1889.	1890.	INCREASE.	DECREASE.
Revenue from Customs	$223,832,741.69	$229,668,584.57	$ 5,835,842.88	
" " Internal revenue	130,881,513.92	142,606,705.81	11,725,191.89	
" " Sale of public lands	8,038,651.79	6,358,272.51		$ 1,680,379.28
" " Miscellaneous sources	24,297,151.44	24,447,419.74	150,268.30	
Total	387,050,058.84	403,080,982.63	17,711,303.07	1,680,379.28
Net increase			16,030,923.79	
Expenditures on account of—				
Civil and miscellaneous:				
Customs, light-houses, public bldgs., etc.	20,154,142.08	19,734,371.91		419,770.17
Internal revenue	3,941,466.30	3,928,068.31		13,397.99
Interior civil (lands, patents, etc.)	7,359,790.25	8,442,413.14	1,082,622.89	
Treasury proper (legislative, executive and other civil)	42,847,717,40	43,430,561.05	582,843.65	
Diplomatic (foreign relations)	1,897,625.72	1,648,276.59		249,349.13
Judiciary	4,463,322.51	4,219,565.49		243,757.02
War department	44,435,270.85	44,582,838.08	147,567.23	
Navy departments	21,378,809.31	22,006,206.24	627,396.93	
Interior department (Indians and pensions)	94,516,986.89	113,644,901.74	19,127,914.85	
Interest on public debt	41,001,484.29	36,099,284.05		4,902,200.24
Premium on public debt	17,292,362 65	20,304,224.06	3,011,861.41	
Total	299,288,978.25	318,040,710.66	24,580,206.96	5,828,474.55
Net increase			18,751,732.41	
lus	$ 87,761,080.59	$85,040,271.97		$ 2,720,808.62

WEIGHT OF VARIOUS MATERIALS IN LBS. (AVOIRDUPOIS) PER CUBIC FOOT.—Pure Gold 1,203.6, Standard Gold 1,102.9, Hammered Gold 1,210.11, Pure Silver 654.6, Hammered Silver 656.9, Standard Silver 658.4, Cast Brass 524,8, Brass Wire 534, Bismuth (Cast) 613.9, Antimony 418.9, Bronze 513.4, Cobalt (Cast) 488.2, Copper (Cast) 459.3, Copper (Sheet) 557.2, Copper (Wire) 554.9, Wrought Iron 486.75, Iron Plates 481.5, Cast Iron 450.4, Gun Metal 543.75, Cast Lead 709.5, Rolled do. 711.75, Red Lead 558.75, Tin 455.7, Platinum (Pure) 1,218, Hammered do. 1,271, Mercury 60 deg., Fluid 848, Mercury (Solid) 977, Nickel (Cast) 487.9, Steel (Plates) 480.75, Steel (Soft) 489.6, Type Metal 653.1, Zinc (Cast) 439, Granite 165.75, Millstone 155.3, Marble (Mean, of nineteen kinds) 180, Grindstones 133.9, Firebrick 137.5, Tile 114.44, Brick (Mean) 102, Clay 102, Limestone (Mean, of seven sorts) 184.1, Loose Earth or Sand 95, Coarse Sand 112.5, Ordinary Soil 124, Mud 102, Clay and Stones 160, Slate 167 to 181.25, Plaster Paris 73.5, Plumbago 131.35, Anthracite Coal from 89.75 to 102.5, Cannel Coal from 77.33 to 82.33, Charcoal from Hard Wood 18.5, ditto from Soft Wood 18, Port Wine 62.31, Fresh Water 62.5, Sea Water 64.3, Dead Sea Water 77.5, Vinegar 67.5, Alum 107.10, Asbestos (Starry) 192.1, Ice at 32 degs. 57.5, Sulphur 127.1, Peat 375 to 83.1, Marl (Mean) 109.33, Hydraulic Lime 171.60, Quartz 166.25, Rock Crystal 170.94, Salt (Common) 133.12, Lard 59.20, Whale Oil 57.70, Olive Oil 57.19.

WEIGHT OF A CUBIC INCH OF VARIOUS METALS IN POUNDS.—Hammered Gold .701 lbs., Cast do (pure) .698, 20 Carats Fine do. .567, Hammered Silver .382, Pure do. .378, Cast Steel .287, Cast Iron .263, Sheet Iron .279, Rolled Platinum .797, Wire do .762, Hammered do .735, Sheet Copper .323, Sheet Brass .304, Lead .410, Cast Tin .264, Cast Zinc .245.

SUNDRY COMMERCIAL WEIGHTS.—A ton of wood is 2 stones of 14 lbs. each. A pack of wool is 240 lbs. A sack of wool is 22 stones of 14 lbs., or 308 lbs. In Scotland, it is 24 of 16 lbs. A keel of 8 Newcastle chaldrons is 15½ London chaldrons. 56 or 60 lbs. is a truss of hay, 40 lbs. a truss of straw; 36 trusses a load. A bushel of rock salt is 65 lbs., of crushed salt 56 lbs., of foreign salt, 84 lbs. A tierce of beef, in Ireland, is 304 lbs., and of pork 320 lbs. A fodder of lead is 19½ cwt. in London and 21 cwt. in the North. A man's load is 5 bushels, a market load 40 (or 5 quarters). A last is 10 quarters of corn, or 2 cart loads, 12 sacks of wool, 24 barrels of gunpowder, 12 barrels of ashes, herring, soap, &c.. and 18 barrels of salt. A hundred of of salt 126 barrels.

SUNDRY MEASURES OF LENGTH.—The hair's breadth is the smallest, of which 48 are an inch. Four barley-corns laid breadthways are ¾ of an inch, called a digit, and 3 barley-corns lengthways are an inch. An inch is divided into 12 lines and by *mechanics into 8ths.* A nail used in cloth measure is 2¼ ins. or *the 16th of a yard.* A palm is 3 ins, and a span 9 ins. An English *Statute mile is* 1,760 yds. or 5,280 ft., an Irish mile 2,240 yds., a *Scotch mile* 1,984 yds., 80 Scotch miles being equivalent [illegible] *English, and* 11 Irish to 14 English.

Marriage and Divorce Laws of all the States and Territories.

Marriage, Licenses.—Required in all the States and Territories except Dakota, Montana, New Mexico, New Jersey, and New York. In Maryland legal marriage can be had only by an ordained minister.

Marriage, Prohibition of.—Marriage between whites and persons of negro descent are prohibited and punishable in California, Colorado, Delaware, Georgia, Florida, Kentucky, Maryland, Mississippi, Missouri, Nebraska, North Carolina, Oregon, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

Marriages between whites and Indians are prohibited in Arizona and North Carolina.

Marriages between whites and Chinese are prohibited in Arizona.

The marriage of first cousins is forbidden in Arkansas, Dakota, Indiana, Kansas, Montana, Nevada, New Mexico, Ohio, Washington Territory, and Wyoming, and in some of them is declared incestuous and void.

Marriage, Age to Contract.—In New Jersey and Ohio males under twenty-one years and females under eighteen years of age must obtain the consent of parents or guardians. In Massachusetts a marriage between a male over fourteen and a female over twelve is legal, even without the consent of parents.

Marriage, Presumption of.—In Missouri it has been held that where parties cohabit and represent themselves as husband and wife, a marriage is presumed, and when *parties capable of* contracting agree, in express terms, *with each other, to* be husband and wife, and cohabit as *such, the marriage* is valid, without any further ceremon *being performed.* In California marriage is declared civil contract; consent, followed by a mutual assumption of marital rights and obligations, is sufficient.

Divorce, Previous Residence Required.—Dakota, ninety days; Arizona, Idaho, Nebraska, Nevada, and Wyoming, six months; Colorado, Illinois, Iowa, Kansas, Kentucky, Maine, Mississippi, Minnesota, Montana, New Hampshire, Ohio, Oregon, Pennsylvania, Rhode Island, Vermont (both parties, as husband and wife), West Virginia, and Wisconsin, one year; Florida, Indiana, Maryland, North Carolina, and Tennessee, two years; Connecticut, Massachusetts, and New Jersey (for desertion), three years.

Divorce, Causes for.—The violation of the marriage vow is cause for absolute divorce in all the States, excepting South Carolina, which has no divorce law.

Willful desertion, one year, in Arizona, Arkansas, Colorado, Dakota, Florida, Idaho, Kansas, Kentucky, Montana, Nevada, Rhode Island, Utah, Wisconsin and Wyoming.

Willful desertion, two years, in Alabama, Illinois, Indiana, Iowa, Michigan, Mississippi, Nebraska, Pennsylvania, Tennessee.

Willful desertion, three years, in Connecticut, Delaware, Georgia, Maine, Maryland, Massachusetts, Minnesota, New Hampshire, New Jersey, Ohio, Oregon, Vermont, and West Virginia.

Willful desertion, five years, in Virginia.

Habitual drunkenness, in all the States, *except* Louisiana, Maryland, New Jersey, New York, North Carolina, Pennsylvania, South Carolina, Texas, Vermont, Virginia, and West Virginia.

"Imprisonment for felony" or "conviction of felony," in all the States, *except* Florida, Louisiana, Maine, Maryland, Nevada, New Jersey, New York, North Carolina, Rhode Island, South Carolina, and Wisconsin.

"*Cruel and* abusive treatment," "intolerable cruelty," "*extreme cruelty,*" or "inhuman treatment," in all the States, *except* Florida, Kentucky, Louisiana, Maryland, ichigan, New York, North Carolina, Pennsylvania uth Carolina, Tennessee, and West Virginia. ailure to provide, one year, in California, Neva and Wyoming; two years in Indiana and Idaho; three years in Massachusetts; no time specified in Maine, Nebraska, Rhode Island, and Vermont. "Gross neglect of duty," in Kansas; willful neglect for three years, in Delaware.

Fraud and fraudulent contract, in Connecticut, Georgia, Idaho, Kansas, Ohio, and Pennsylvania.

Absence without being heard of, in New Hampshire; absence two years, in Tennessee; seven years, in Connecticut and Vermont; absence, without reasonable cause, one year, in Missouri: separation five years, in Kentucky; voluntary separation, five years, in Wisconsin.

Ungovernable temper, in Kentucky; "habitual indulgence in violent and ungovernable temper," in Florida; "such indignities as make life intolerable," in Missouri and Wyoming; "indignities as render life burdensome," in Oregon and Pennsylvania.

Other causes in different States are as follows: "Husband notoriously immoral before marriage, unknown to wife," in West Virginia; "fugitive from justice," in Virginia; "gross misbehavior or wickedness," in Rhode Island; "attempt on life," in Illinois; "refusal of wife to move into the State," in Tennessee; "mental incapacity at time of marriage," in Georgia; "three years with any religious society that believes the marriage relation unlawful," in Massachusetts; "joining any religious sect that believes marriage unlawful, and refusing to cohabit six months," in New Hampshire; "parties cannot live in peace and union," in Utah; "settled aversion, which tends to permanently destroy all peace and happiness," in Kentucky.

In Georgia an absolute divorce is granted only after the concurrent verdict of two juries, at different terms of the court. In New York absolute divorce is granted for but one cause, adultery. In South Carolina there is *no divorce law.*

All of the causes above enumerated are for absolute or *full divorce.*

Divorce, Remarriage.—There are no restrictions up *remarriage,* by divorced persons, in Connecticut, K *ucky Illinois,* and Minnesota. Either party

Fat, Water and Muscle Properties of Food.

100 parts.	*Water.*	*Muscle.*	*Fat.*
Cucumbers	97.0	1.5	1.0
Turnips	94.4	1.1	4.0
Cabbage	90.0	4.9	5.0
Milk — cows	86.0	5.0	8.0
Apples	84.0	5.0	10.0
Eggs, yolk of	79.0	15.0	27.0
Potatoes	75.2	1.4	22.5
Veal	68.5	10.1	16.5
Eggs, white of	53.0	17.0	.0
Lamb	50.5	11.0	35.0
Beef	50.0	15.0	30.0
Chicken	46.0	18.0	32.0
Mutton	44.0	12.5	40.0
Pork	38.5	10.0	50.0
Beans	14.8	24.0	57.7
Buckwheat	14.2	8.6	75.4
Barley	14.0	15.0	68.8
Corn	14.0	12.0	73.0
Peas	14.0	23.4	60.0
Wheat	14.0	14.6	69.4
Oats	13.6	17.0	66.4
Rice	13.5	6.5	79.5
Cheese	10.0	65.0	19.0
Butter			100.0

Most Northern Point Reached by Arctic Explorers.

Year.	*Explorers.*	*No. Latitude.*		
1607	Hudson	80d`	23m	00s
1773	Phipps (Lord Musgrove)	80d	48m	00s
1806	Scoresby	81d	12m	42s
1827	Parry	82d	45m	30s
1874	Meyer (on land)	82d	09m	00s
1875	Markham (Nare's expedition)	83d	20m	26s
1876	Payer	83d	07m	00s
1884	Lockwood (Greely's party)	83d	24m	00s

The distance from the farthest point of polar discovery to the pole itself is 460 miles. But this polar radius, though only 460 miles in extent, is covered by ice gorges and precipices of incredible difficulty; and frost is so severe that no instrument of human invention can measure its intensity, and it blisters the skin like extreme heat.

The greatest progress that has ever been made across these wildernesses of storm, of fury and desolation, was at the rate of six miles a day, the explorers often resting as many days as the had before traveled miles in a single day.

ANALYSIS OF VARIOUS ARTICLES OF FOOD.

Articles.	Water.	Fibrin of Gluten.	Fat.	Starch, Sugar & Gum.	Ash.	Starch.	Wood Fibers.	Mineral Matter.	Sugar.	Flour.	Blood and Salts.	Caseine.	Acid.	Albumen.	Gluten & Albumen.	Theine.	Gum.
Apple	87	3¾		9										¼			
Barley	10½	5⅓	⅓		2½	60½	11⅛	⅓	4½								4½
Beans	14	24	2	48	2		10										
Beet root	81	8							10½								
Buckwheat flour	14½	8½		26	½	50		1									
Cheese, rich and old	36		30½		4½							29					
Cocoa bean	5	17	56	22													
Coffee	12	13	13	15½	6¾		34						5			¾	
Cornmeal	14	12	8	66													
Egg	74		10½														
Haddock and herring		92															
Milk	87		3		¾				4¾			4½					
Meat, butcher's		68	25								7						
Pea	15	24	2	20		39											
Potato	75	8													17		
Rice	14	7½	¾	½	⅓	73	3½	¼									
Rye flour	14	25			1	42½		½		17							
Tea	5	25	4	21													
Wheat	14	16	1	67	1			1									
" bran	13	18	6	63													
" flour*	16	10	2	72													
" bread	45	6	1	48													

* Water absorbed by flour varies from 40 to 60 per cent. of the weight of the flour, the best quality absorbing most. 100 lbs. flour yields 130 lbs. bread.

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Peas	14.0	23.4	60.0
Wheat	14.0	14.6	69.4
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1876	Payer	83d	07m	00s
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Barley	10½	5⅓	⅓		2½	60½	11⅓	⅓	4½								4½
Beans	14	24	2	48	2		10										
Beet root	81	8							10½								
Buckwheat flour	14½	8½		26	½	50		1									
Cheese, rich and old	36		30½		4½							29					
Cocoa bean	5	17	56	22													
Coffee	12	13	13	15½	6¾		34						5			¾	
Cornmeal	14	12	8	66													
Egg	74		10½														
Haddock and herring		92															
Milk	87		3		¾				4¾			4½					
Meat, butcher's		68	25								7						
Pea	15	24	2	20		39											
Potato	75	8													17		
Rice	14	7½	¾	½	½	73	3½	¼									
Rye flour	14	25			1	42½		½		17							
Tea	5	25	4	21													
Wheat	14	16	1	67	1			1									
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" flour*	16	10	2	72													
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A List of 365 Principal Historical Events from 1492 to Date.

JANUARY.

1 New Year's Day.
2 Quakers free slaves, 1788.
3 Battle of Princeton, 1777.
4 National Fast, 1861.
5 Richmond burned, 1781.
6 Santa Anna president, 1853.
7 Millard Fillmore born, 1800.
8 Mississippi seceded, 1861.
9 New York founded, 1614.
10 Battle Middle Creek, Ky., 1862.
11 Arkansas Post surrendered, 1863.
12 Vicksburg fortified, 1861.
13 Gen. Taylor ordered to Mexico, 1846.
14 Peace declared, 1783.
15 Edward Everett died, 1865.
16 Napier appointed envoy to United States, 1857.
17 Benjamin Franklin born, 1706.
18 Georgia seceded, 1861.
19 Battle Mill Spring, Ky., 1862.
20 Independence United States recognized, 1783.
21 Fremont born, 1813.
22 Battle Frenchtown, 1813.
23 Battle Encarnacion, Mex., 1847.
24 President Johnson's imp. trial, 1868.
25 Louisiana seceded, 1861.
26 Michigan admitted, 1837.
27 Audubon died, 1851.
28 William H. Prescott died, 1859
29 *Kansas* admitted, 1861.
30 *N. P.* Banks born, 1816.
31 *Str.* Metropolis lost, 1878.

FEBRUARY.

1 Texas seceded, 1861.
2 Peace with Mexico, 1848.
3 Horace Greeley born, 1811.
4 Confederate Congress met, 1861.
5 Hatcher's Run, Va., 1865.
6 Fort Henry captured, 1862.
7 U. S. Bank suspends, 1841.
8 Jeff Davis elected President, 1861.
9 Bishop Waugh died, 1858.
10 Treaty of Paris, 1763.
11 Charleston evacuated, 1865.
12 A. Lincoln born, 1809.
13 Fernando Wood died, 1881.
14 St. Valentine's Day.
15 Bishop Vightman died, 1882.
16 Fort Donelson surrendered, 1862.
17 Columbia, S. C., burned, 1865.
18 Jeff Davis inaugurated, 1861.
19 First National Thanksgiving, 1795.
20 Battle Olistee, Fla., 1864.
21 Battle Valverde, N. M., 1861.
22 Washington born, 1732.
23 Nashville taken, 1862.
24 Peacock captured, 1813.
25 Battle Trenton, 1776.
26 Gen. Sickles acquitted, 1859.
27 Longfellow born, 1807.
28 Black Warrior seized, 1854.

MARCH.

1 Nebraska admitted, 1867.
2 Missouri admitted, 1821.
3 Florida admitted, 1845.
4 Vermont admitted, 1791.
5 Boston massacre, 1770.
6 Battle Pea Ridge, 1862.
7 Bible Society founded, 1804.
8 Wesley started for America, 1738.
9 Monitor destroys Merrimac, 1862.
10 McClellan crossed Potomac, 1862
11 Benjamin West died, 1820.

12 Chicago flood, 1849.
13 Pocahontas died, 1617.
14 Jackson born, 1767.
15 Battle Guilford C. H., 1781.
16 Expunging Res. ad., 1837.
17 St. Patrick's Day.
18 Calhoun born, 1782.
19 Patent of Conn. issued, 1631.
20 Uncle Tom's Cabin pub., 1852.
21 Nevada admitted, 1864.
22 Stamp Act passed, 1765.
23 Battle Winchester, 1862.
24 Longfellow died, 1882.
25 Port Bill passed, 1774.
26 Gov. Winthrop died, 1640.
27 Vera Cruz taken, 1847.
28 Essex captured, 1814.
29 J. J. Astor died, 1848.
30 Crimean war ends, 1856.
31 Calhoun died, 1850.

APRIL

1 Battle Five Forks, 1865.
2 Jefferson born, 1743.
3 Richmond captured, 1865.
4 President Harrison died, 1841.
5 Yorktown besieged, 1862.
6 Washington elected, 1789.
7 Channing born, 1780.
8 Louisiana admitted, 1812.
9 Lee's surrender, 1865.
10 Modoc massacre, 1873.
11 Mobile evacuated, 1865.
12 Henry Clay born, 1777.
13 Fall of Sumter, 1862.
14 Lincoln shot, 1865.
15 First call for troops, 1861.
16 Slavery abolished D. C., 1862.
17 Benjamin Franklin died, 1790.
18 Battle Cerro Gordo, 1847.
19 Battle Lexington, 1775.
20 Plymouth, N. C., captured, 18[illegible]
21 Norfolk Navy Yard captured, [illegible]

22 Buchanan born, 1791.
23 Stephen A. Douglas born, 1831.
24 First newspaper published in America, 1704.
25 Bishop Ames died, 1879.
26 Johnston surrendered, 1865.
27 U. S. Grant born, 1822.
28 Maryland admiited, 1788.
29 Bishop Morris born, 1794.
30 Washington inaugurated, 1789.

MAY.

1 Seige of Fort Meigs, 1813.
2 Battle of Chancellorville, 1863.
3 Columbus discovered Jamaica, 1494.
4 Yorktown evacuated, 1862.
5 Battle of Williamsburg, 1862.
6 Tennessee seceded, 1861.
7 Arkansas seceded, 1861.
8 Battle of Palo Alto, 1846.
9 Battle Resaca de la Palma, 1846.
10 Jeff Davis captured, 1865.
11 Minnesota admitted, 1858.
12 Crown Point captured, 1775.
13 Jamestown, Va., settled, 1607.
14 Battle Jackson, Miss., 1863.
15 Battle Resaca, Ga., 1864.
16 W. H. Seward born, 18[illegible].
17 Great fire, St. Louis, 1849.
18 Matamoras captured, 1846.
19 Hawthorne died, 1864.
20 Lafayette died, 1834.
21 North Carolina seceded, 1861.
22 Assault on Vicksburg, 1863.
23 South Carolina admitted, 1778
24 Brooklyn bridge opened, 1883.
25 Philadelphia Convention met, 1748.
26 Pequod massacre, 1637.
27 *Fort Erie evacuated*, 1813.
28 *Noah Webster* died, 1843.
29 *Rhode Island* admitted, 1790.
30 *Congress met in* Washington. 18
[illegible] *Battle Seven Pines*, 186

JUNE

1 Kentucky admitted, 1792.
2 Battle Cold Harbor, Va., 1864.
3 Battle Philippi, Va., 1861.
4 Port Pillow captured, 1862.
5 Battle Piedmont, Va., 1864.
6 Memphis taken, 1862.
7 United States Bank founded, 1791.
8 Jamestown, Va., abandoned, 1610.
9 Georgia chartered, 1732.
10 Battle Big Bethel, 1861.
11 Sherman arrives Kenesaw, 1864.
12 Bryant died, 1878.
13 Fugitive slave bill repealed, 1864.
14 Tax on tea ordered, 1767.
15 Arkansas admitted, 1836.
16 Battle Bunker Hill, 1775.
17 Charleston, Mass., burned, 1775.
18 War declared Great Britain, 1812.
19 Alabama sunk by Kearsarge, 1864
20 United States flag adopted, 1777.
21 New Hampshire admitted, 1788.
22 Battle Craney Id., 1813.
23 Battle Springfield, N. J., 1780.
24 Labrador discovered, 1497.
25 Gen. Custer killed, 1876.
26 Seven days' fight, Virginia, 1862
27 Vera Cruz surrendered, 1847.
28 Battle of Charleston, 1776.
29 Henry Clay died, 1852.
30 Guiteau hanged, 1882.

JULY.

1 Battle Gettysburg begun, 1863.
2 President Garfield shot, 1881.
3 Massacre of Wyoming, 1778.
4 Independence Day.
5 *British* captured Ticonderoga, 1777.
6 *Battle Carthage*, Mo., 1861.
7 *Mrs. Surratt* hanged, 1865.
8 *Abercrombie* defeated, 1758.
9 *Braddock's* defeat, 1755.

10 Columbus born, 1447.
11 J. Q. Adams born, 1767.
12 Hull invades Canada, 1812.
13 Draft riots, New York, 1863.
14 Second Chicago fire, 1874.
15 Stony Point captured, 1779.
16 Battle Point au Play, 1814.
17 Fort Mackinaw captured, 1812.
18 Assaults on Fort Wagner, 1863.
19 Great fire in New York. 1845.
20 Confederate Congress met, 1861.
21 First Battle Bull Run, 1861.
22 McPherson killed, 1864.
23 Battle Caloosahatchie, 1839.
24 Van Buren died, 1862.
25 Battle Lundy's Lane, 1814.
26 Louis Philippe died, 1850.
27 John Morgan captured, 1863.
28 Fighting ends at Atlanta. 1864.
29 Confederate soldiers paroled, 1865.
30 Chambersburg burned, 1864.
31 Battle Montmorenci, 1759.

AUGUST.

1 Columbus discovered mainland, 1498.
2 Battle Sandusky, 1813.
3 Columbus left Spain, 1492.
4 Iowa adopted Constitution, 1846.
5 Mobile forts attacked, 1864.
6 Ram Tennessee captured. 1864.
7 Great fire in New York, 1778.
8 Battle of Mackinaw, 1814.
9 Battle of Cedar Mt., Va., 1862.
10 Missouri admitted, 1821.
11 Davis Straits discovered. 1585.
12 New York rioters convicted, 1863.
13 Fort Erie bombarded. 18[illegible]
14 Oswego taken, [illegible]
15 Lafayette revisits United States, [illegible]
16 Hull's surrender, 1812.
17 N. E. Courant established, 1721.
18 Battle Fishing Creek, 178[illegible]

19 Guerriere captured, 1812.
20 Battle Contreras, 1847.
21 Lawrence, Kas., burned, 1863.
22 Yacht America wins, 1851.
23 New Mexico annexed, 1846.
24 Washington taken, 1814.
25 British army in Chesapeake, 1777.
26 Stamp Act riot, 1768.
27 Battle Long Island, 1776.
28 First cable message, 1858.
29 Capture of Hatteras, 1861.
30 William Penn died, 1718.
31 Battle Jonesboro, Ga., 1864.

SEPTEMBER.

1 Lopez garroted, 1851.
2 Atlanta evacuated, 1864.
3 Treaty of Paris, 1783.
4 Gen. Morgan killed, 1864.
5 Continental Congress met, 1774.
6 May Flower sailed, 1620.
7 Brazil declared independent, 1822.
8 Montreal surrendered, 1760.
9 California admitted, 1850.
10 Hudson River discovered, 1609.
11 Battle Brandywine, 1777.
12 Battle Chapultepec, 1847.
13 Battle Quebec, 1759.
14 Fulton's steamboat starts, 1807.
15 Fenimore Cooper born, 1789.
16 Battle Harlem Plains, 1776.
17 Battle Antietam, 1862.
18 Surrender of Quebec, 1759.
19 Battle Saratoga, 1777.
20 Capture of Lexington, Mo., 1861
21 Andre captured, 1780.
22 Battle Fisher's Hill, Va., 1864.
23 *Serapis captured*, 1779.
24 *Montery surrendered*, 1846.
25 *Battle Montreal*, 1775.
26 *Philadelphia* captured by British, 1777.
Steamer Artic lost. 1854.

28 Fort Harrison, Va., captured, 1864.
29 Draft in New York, 1862.
30 Peace treaty with France, 1800.

OCTOBER.

1 British troops arrived Boston, 1768.
2 Andre executed, 1780.
3 Blackhawk died, 1838.
4 Battle Corinth, 1862.
5 Tecumseh killed, 1813.
6 Peace proclaimed, 1783.
7 E. A. Poe died, 1849.
8 Battle Perryville, Ky., 1862.
9 Great Chicago fire, 1871.
10 B. West born, 1738.
11 Prince of Wales arrived in New York, 1860.
12 R. E. Lee died, 1870.
13 Battle of Queenstown, 1812.
14 William Penn born, 1644.
15 Chippewa Plains, 1814.
16 First newspaper in New York, 1725.
17 Burgoyne surrendered, 1777.
18 Sloop Frolic captured, 1812.
19 Surrender of Cornwallis, 1781.
20 Steamer Florida captured, 1864.
21 Battle Ball's Bluff, 1861.
22 Battle Fort Mercer, 1777.
23 Battle St. Regis, 1812.
24 Daniel Webster died, 1852.
25 Macedonian captured, 1812.
26 Fight of Chatauqua, 1813.
27 Ram Albemarle destroyed, 1864.
28 Harvard College founded, 1636.
29 Battle White Plains, 1776.
30 Old John St. Church died, 1768.
31 Nevada admitted, 1864.

NOVEMBER.

1 *Battle French* Creek, 1813.
2 *Erie Canal* finished, 1825.
3 *Bryant* born, 1794.
4 *Declaration* of rights by Congress, 1774.
5 *Grant's* second election, 1872.

6 Lincoln elected, 1860.
7 Battle of Tippecanoe, 1811.
8 Mason and Slidell seized, 1861.
9 Mayflower arrived Cape Cod, 1620.
10 Dutch seized rule New York, 1674.
11 Battle Shryser's Field, 1813.
12 Conscription declared unconstitutional, 1863.
13 Montreal captured, 1775.
14 Sherman marched to sea, 1864.
15 Great fire in New York, 1835.
16 Fort Washington captured, 1776.
17 Jeff Davis threatens reprisal, 1862.
18 Battle Fish Dam, S. C., 1780.
19 Garfield born, 1831.
20 Battle Belle Isle, 1759.
21 North Carolina admitted, 1789.
22 Bishop Wiley died, 1884.
23 Bragg defeated, 1863.
24 Battle Lookout Mountain, 1863.
25 Evacuation New York, 1783.
26 Battle Mission Ridge, 1863.
27 Hoosac Tunnel opened, 1873.
28 Irving died, 1859.
29 Wendell Phillips born, 1811.
30 Revolutionary War ends, 1782.

DECEMBER.

1 Statue Washington unveiled, 1832.
2 John Brown executed, 1859.
3 Illinois admitted, 1818.
4 Alabama admitted, 1818.
5 Van Buren born, 1782.
6 Carver landed New England, 1620.
7 Delaware admitted, 1787.
8 Washington crossing Delaware, 1776.
9 Buffalo burned, 1813.
10 Mississippi admitted, 1817.
11 Pilgrims landed, 1620.
12 Pennsylvania admitted, 1787.
3 Battle Fredericksburg, Va., 1862.
Washington died, 1799.
Hartford convention, 1814.

16 Boston Tea Party, 1773.
17 General Bolivar died, 1830.
18 New Jersey admitted, 1787.
19 Massacre Narragansetts, 1675.
20 South Carolina seceded, 1860.
21 Savannah captured, 1864.
22 Embargo on American ships, 1807.
23 Washington resigned commission, 1783.
24 Fort Fisher stormed, 1864.
25 Christmas.
26 Major Anderson occupied Sumter, 1860.
27 Battle Chickasaw Bayou, 1862.
28 Iowa admitted, 1846.
29 Texas admitted, 1845.
30 New Mexico purchased, 1853.
31 Monitor founded, 1862.

MILES OF VARIOUS NATIONS.

The English and American mile is	1,760 yards.
The Scotch mile is	1,984 "
The Irish mile is	2,240 "
The German mile is	8,106 "
The Dutch and Prussian mile is	6,480 "
The Italian mile is	1,766 "
The Vienna post mile is	8,296 "
The Swiss mile is	9,153 "
The Swedish and Danish mile is	7,341.5 "
The Arabian mile is	2,143 "
The Roman mile is	1,628 or 2,025 "
The Werst mile is	1,167 or 1,337 "
The Tuscan mile is	1,808 "
The Turkish mile is	1,826 "
The Flemish mile is	6,869 "

On Oak Orchard creek and the Genesee river, between Rochester and Lake Ontario, are enormous chasms, worn by water, seven miles long. On the Genesee, south of Rochester, a cut exists from Mount Morris to Portage, sometimes 400 feet deep. In the Rocky Mountains, near the source of the Missouri river, there is a gorge six miles long and 1,200 feet deep. In the Mississippi, at *St. Anthony's Falls,* the river has eroded a passage through limestone rock seven miles long, to which distance the cataract has receded. *In the* passage of the Connecticut river at Brattlebo *and Bellows Falls,* it can be proved that the river was once at le *wo feet above its* present level.

THE SILVER QUESTION.

In all civilized countries either gold or silver has been adopted as the standard of monetary value. The following is a list of the most important countries in the world, divided into three groups, those using (1) a gold standard, (2) a silver standard, (3) a double or variable standard. Of these last it may be said that the term "variable" is preferable to that of "double," inasmuch as the double standard never exists at one and the same time, gold or silver becoming alternately the standard, as the state of the exchanges makes the one or the other the more desirable as the practical medium of exchange.

Gold Standard.		Silver Standard.		Double or Variable Standard.	
Australia.	Great Britain and Ireland.	Austria.	India.	Argentine Republic.	Italy.
Brazil.	Liberia.	Bolivia.	Japan.	Belgium.	Netherlands.
British Colonies in Africa.	New Zealand.	China.	Mexico.	Chili.	Roumania.
British N. America.	Norway.	Cochin China.	Peru.	Cuba.	Spain.
Denmark.	Portugal.	Colombia.	Russia.	France.	Switzerland.
Egypt.	Sweden.	Ecuador.	Tripoli.	Greece.	Venezuela.
German Empire.	Turkey.	E. Indian Isles.		Hayti.	United States.
		Hungary.			

ATIVE HARDNESS OF WOODS.—Taking shell bark hickory
highest standard of our forest trees, and calling that 100,
rees will compare with it for hardness as follows;

›ark Hickory	100	Yellow Oak	60
t Hickory	96	Hard Maple	56
Oak	84	White Elm	58
Ash	77	Red Cedar	56
›od	75	Wild Cherry	55
Oak	73	Yellow Pine	54
Hazel	72	Chestnut	52
Tree	70	Yellow Poplar	51
›ak	69	Butternut	43
Beech	65	White Birch	43
Walnut	65	White Pine	30
Birch	62		

ber intended for posts, is rendered almost proof against rot
rough seasoning, charring, and immersion in hot coal tar.

slide of Alpnach, extending from Mount Pilatus to Lake
ıe, a distance of 8 miles, is composed of 25,000 trees,
ed of their bark, and laid at an inclination of 10 to 18
:s. Trees placed in the slide rush from the mountain into
ce in 6 minutes.

Alps comprise about 180 mountains, from 4,000 to 15,732
gh, the latter being the height of Mont Blanc, the highest
ı Europe. The summit is a sharp ridge, like the roof of a
, consisting of nearly vertical granite rocks. The ascent
es 2 days, 6 or 8 guides are required, and each guide is paid
ıncs ($20.00). It was ascended by 2 natives, Jacques Bel-
ıd Dr. Packard, Aug. 8, 1786, at 6 a. m. They staid up 30
es, with the thermometer at 14 degrees below the freezing
The provisions froze in their pockets; their faces were
ıitten, lips swollen, and their sight much weakened, but they
·ecovered on their descent. De Saussure records in his
: August 2, 1760, that the color of the sky was deep blue;
ars were visible in the shade; the barometer sunk to 16.08
(being 27.08 in Geneva); the thermometer was 26½ degrees,
sun 29 degrees (being 87 degrees at Geneva). The thin air
the blood into a high fever, you feel as if you hardly touched
ound, and you scarcely make yourself heard. A French
ı, Mademoiselle d'Angeville, ascended in September, 1840,
dragged up the last 1,200 feet by guides, and crying out:
ıie, carry me to the top." When there, she made them lift
ı, that she might boast she had been higher than any man in
ıe. The ascent of these awful solitudes is most perilous,
to the narrow paths, tremendous ravines, icy barriers,
ices, etc. In many places every step has to be cut in the
e party being tied to each other by ropes, so that if one slips
r be held up by the rest, and silence is enforced, lest the
f talking should dislodge the avalanches of the Aiguille
: The view from the mountain is inexpressibly grand.
Ups, the limit of the vine is an elevation of 1,600 feet;

below 1,000 feet, figs, oranges and olives are produced. The limit of the oak is 3,800 ft., of the chestnut 2,800 ft., of the pine 6,500 ft., of heaths and furze to 8,700 and 9,700 ft.; and perpetual snow exists at an elevation of 8,200 feet.

On the Andes, in lat. 2 degrees, the limit of perpetual snow is 14,760 ft.; in Mexico, lat. 19 degrees, the limit is 13,800 ft.; on the peak of Teneriffe, 11,454 ft.; on Mount Etna, 9,000 ft.; on the Caucasus, 9,900 ft.; the Pyrenees, 8,400 ft.; in Lapland, 3,100 ft.; in Iceland, 2,890 ft. The walnut ceases to grow at an elevation of 3,600 ft.; the yellow pine at 6,200 ft.; the Ash at 4,800 ft., and the Fir at 6,700 ft. The loftiest inhabited spot on the globe is the Port House of Ancomarca, on the Andes, in Peru, 16,000 feet above the level of the sea. The 14th peak of the Himalayas, in Asia, 25,659 feet high, is the loftiest mountain in the world.

Lauterbrunnen is a deep part of an Alpine pass, where the sun hardly shines in winter. It abounds with falls, the most remarkable of which is the Staubbach, which falls over the Balm precipice in a drizzling spray from a height of 925 feet; best viewed in the morning sun or by moonlight. In general, it is like a gauze veil, with rainbows dancing up and down it, and when clouds hide the top of the mountain, it seems as poured out of the sky.

In Canada, the falls of Montmorenci are 250 feet high, the falls of Niagara (the Horse Shoe Falls) are 158 feet high and 2,000 feet wide, the American Falls are 164 feet high and 900 feet wide. The Yosemite Valley Falls are 2,600 feet high, and the Ribbon Falls of the Yosemite are 3,300 feet high. The water-fall of the Arve, in Bavaria, is 2,000 feet.

THE PERIODS OF GESTATION are the same in the horse and ass, or 11 months each, camel 12 months, elephant 2 years, lion 5 months, buffalo 12 months, in the human female 9 months, cow 9 months, sheep 5 months, dog 9 weeks, cat 8 weeks, sow 16 weeks, she wolf from 90 to 95 days. The goose sits 30 days, swans 42, hens 21, ducks 30, peahens and turkeys 28, canaries 14, pigeons 14, parrots 40.

AGES OF ANIMALS, &C.—Elephant 100 years and upward, Rhinoceros 20, Camel 100, Lion 25 to 70, Tigers, Leopards, Jaguars and Hyenas (in confinement) about 25 years, Beaver 50 years, Deer 20, Wolf 20, Fox 14 to 16, Llamas 15, Chamois 25, Monkeys and Baboons 16 to 18 years, Hare 8, Squirrel 7, Rabbit 7, Swine 25, Stag under 50, Horse 30, Ass 30, Sheep under 10, Cow 20, Ox 30, Swans, Parrots and Ravens 200, Eagle 100, Geese 80, Hens and Pigeons 10 to 16, Hawks 36 to 40, Cranes 24, Blackbird 10 to 12, Peacock 20, Pelican 40 to 50, Thrush 8 to 10, Wren 2 to 3, Nightingale 15, Blackcap 15, Linnet 14 to 23, Goldfinch 20 to 24, Redbreast 10 to 12, Skylark 10 to 30, Titlark 5 to 6, Chaffinch 20 to 24, Starling 10 to 12, Carp 70 to 150, Pike 30 to 40, Salmon 16, Codfish 14 to 17, Eel 10, Crocodile 100, Tortoise 100 to 200, Whale estimated 1,000, Queen Bees live 4 years, Drones 4 months, Working Bees 6 months.

The melody of singing birds ranks as follows: The nightingale first, then the linnet, titlark, sky lark and wood lark. The mocking bird has the greatest powers of imitation, the robin and goldfinch are superior in vigorous notes.

The condor of Peru has spread wings 40 feet, feathers 20 feet, quills 8 inches round.

In England, a quarter of wheat, comprising 8 bushels, yield 14 bushels 2½ pecks, divided into seven distinct kinds of flour, as follows: Fine flour, 5 bushels 3 pecks; bran, 3 bushels; twenty-penny, 3 bushels; seconds, 2 pecks; pollard, 2 bushels; fine middlings, 1 peck; coarse ditto, 1 peck.

The ancient Greek phalanx comprised 8,000 men, forming a square battalion, with spears crossing each other, and shields united.

The Roman legion was composed of 6,000 men, comprising 10 cohorts of 600 men each, with 300 horsemen.

The ancient battering ram was of massive timber, 60 to 100 feet long, fitted with an iron head. It was erected under shelter to protect the 60 or 100 men required to work it. The largest was equal in force to a 36-lb. shot from a cannon.

PILE DRIVING ON SANDY SOILS.—The greatest force will not effect a penetration exceeding 15 feet.

VARIOUS SIZES OF TYPE.—It requires 205 lines of Diamond type to make 12 inches, of Pearl 178, of Ruby 166, of Nonpareil 143, of Minion 128, of Brevier 112½, of Bourgeois 102½, of Long Primer 89, of Small Pica 83, of Pica 71½, of English 64.

Wire ropes for the transmission of power vary in size from ⅜ to ⅞ inch diam. for from 3 to 300 horse power; to promote flexibility, the rope, made of iron, steel, or copper wire, as may be preferred, is provided with a core of hemp, and the speed is 1 mile per minute, more or less, as desired. The rope should run on a well-balanced, grooved, cast iron wheel, of from 4 to 15 feet diam., according as the transmitted power ranges from 3 to 300 horse; the groove should be well cushioned with soft material, as leather or rubber, for the formation of a durable bed for the rope. With good care the rope will last from 3 to 5 years.

Cannon balls go furthest at an elevation of 30 degrees, and less as the balls are less; the range is furthest when fired from west to east in the direction of the earth's motion, which for the diurnal rotation on its axis, is at the rate of 1,037 miles per hour, and in its orbit, 66,092 miles.

The air's resistance is such, that a cannon ball of 3 lbs. weight, diameter, 2.78 ins. moving with a velocity of 1,800 ft. per second, is resisted by a force equal to 156 lbs.

Brick-layers ascend ladders with loads of 90 lbs., 1 foot per second. There are 484 bricks in a cubic yard, and 4,356 in a rod.

A power of 250 tons is necessary to start a vessel weighing 3,000 tons over greased slides on a marine railway, when in motion, 150 tons only is required.

A modern dredging machine, 123 ft. long, beam 26 ft., breadth over all, 11 ft., will raise 180 tons of mud and clay per hour, 11 feet from water-line.

In tanning, 4 lbs. of oak bark make 1 lb. of leather.

Flame is quenched in air containing 3 per cent. of carbonic acid; the same percentage is fatal to animal life.

100 parts of oak make nearly 23 of charcoal; beech 21, deal 19, apple 23.7, elm 23, ash 25, birch 24, maple 22.8, willow 18, popular 20, red pine 22.10, white pine 23. The charcoal used in gunpowder is made from willow, alder, and a few other woods. The charred timber found in the ruins of Herculaneum has undergone no change in 1,800 years.

Four volumes of nitrogen, and one of oxygen compose atmospheric air in all localities on the globe.

Air extracted from pure water, under an air pump, contains 34.8 per cent. of oxygen. Fish breathe this air, respiring about 35 times per minute. The oxyhydrogen lime light may be seen from mountains at the distance of 200 miles round.

Lightning is reflected 150 to 200 miles.

1,000 cubic feet of 13 candle gas is equivalent to over 7 gals. of sperm oil, 52.9 lbs. of tallow candles, and over 44 lbs. of sperm candles.

The time occupied by gas in traveling from a gas well (in Pennsylvania) through 32 miles of pipe was 22 minutes, pressure at the well was 55 lbs. per inch, pressure at discharge 49 lbs.

The flight of wild ducks is estimated at 90 miles per hour, that of the swift at 200 miles, carrier pigeons 38 miles, swallows 60 miles, migratory birds have crossed the Mediterranean at a speed of 120 miles per hour.

At birth, the beats of the pulse are from 165 to 104, and the inspirations of breath from 70 to 23. From 15 to 20, the pulsations are from 90 to 57, the inspirations, from 24 to 16; from 29 to 50, the pulsations are 112 to 56, the inspirations, 23 to 11. In usual states it is 4 to 1. The action of the heart distributes 2 ozs. of blood from 70 to 80 times in a minute.

The mean heat of the human body is 98 degs. and of the skin 90 degs. Tea and coffee are usually drank at 110 degs.

The deepest coal mine in England is at Killingworth, near Newcastle, and the mean annual temperature at 400 yards below the surface is 77 degrees, and at 300 yards 70 degrees, while at the surface it is but 48 degrees, being 1 degree of increase for every 15 yards. This explains the origin of hot springs, for at 3,300 yards the heat would be equal to boiling water, taking 20 yards to a degree. The heat of the Bath waters is 116 degrees, hence they would appear to rise 1,320 yards.

Peron relates that at the depth of 2,144 feet in the sea the thermometer falls to 45 degrees, when it is 86 degrees at the surface.

Swemberg and Fourier calculate the temperature of the celestial spaces at 50 degrees centigrade below freezing.

In Northern Siberia the ground is frozen permanently to the depth of 660 feet, and only thaws to the extent of 3 or 4 feet in summer. Below 660 feet internal heat begins.

River water contains about 30 grs. of solid matter in every cubic foot. Fresh water springs of great size abound under the sea. erhaps the most remarkable springs exist in California, where they are noted for producing sulphuric acid, ink, and other remarkable products.

St. Winifred's Well, in England, evolves 120 tons of water per minute, furnishing abundant water power to drive 11 mills within little more than a mile.

The Nile has a fall of 6 ins. in 1,000 miles. The rise of the river commences in June, continuing until the middle of August, attaining an elevation of from 24 to 26 feet, and flowing the valley of Egypt 12 miles wide. In 1829 it rose to 26 cubits, by which 30,000 persons were drowned. It is a terrible climate to live in, owing to the festering heat and detestable exhalations from the mud, etc., left on the retiring of the Nile, which adds about 4 inches to the soil in a century, and encroaches on the sea 16 feet every year. Bricks have been found at the depth of 60 feet, showing the vast antiquity of the country. In productiveness of soil it is excelled by no other in the world.

Belzoni considered the tract between the first and second cataract of the Nile as the hottest on the globe, owing to there being no rain. The natives do not credit the phenomenon of water falling from above. Hence it is that all monuments are so nicely preserved. Buckingham found a building left unfinished about 4,000 years ago, and the chalk marks on the stones were still perfect.

Pompey's Pillar is 92 feet high, and 27½ round at the base.

The French removed a red granite column 95 feet high, weighing 210 tons, from Thebes, and carried it to Paris. The display of costly architectural ruins at Thebes is one of the most astonishing to be seen anywhere in the world. The ruins and costly buildings in old Eastern countries, are so vast in their proportions and so many in number that it would require volumes to describe them.

Babel, now called Birs Nimroud, built at Babylon by Belus, was used as an observatory and as a temple of the Sun. It was composed of 8 square towers, one over the other, in all 670 feet high, and the same dimensions on each side on the ground.

The Coliseum at Rome, built by Vespasian for 100,000 spectators, was in its longest diameter 615.5 feet, and in the shortest 510. embraced 5½ acres, and was 120 feet high.

Eight aqueducts supplied ancient Rome with water, delivering 40 millions of cubic feet daily. That of Claudia was 47 miles long and 100 feet high, so as to furnish the hills. Martia was 41 miles, of which 37 were on 7,000 aches 70 feet high. These vast erections would never have been built had the Romans known that water always rises to its own level.

The Temple of Diana, at Ephesus, was 425 feet long and 225 feet broad, with 127 columns, 60 feet high, to support the roof. It was 220 years in building.

Solomon's Temple, built B. C. 1014, was 60 cubits or 107 feet in length, the breadth 20 cubits or 36 feet, and the height 30 cubits or 54 feet. The porch was 36 feet long and 18 feet wide.

The largest one of the Egyptian pyramids is 543 feet high, 693 feet on the sides, and its base covers 11 acres. The layers of stone are 208 in number. Many stones are over 30 feet long, 4 bro and 3 thick.

The Temple of Ypsambul, in Nubia, is enormously massive and cut out of the solid rock. Belzoni found in it 4 immense figures, 65 feet high, 25 feet over the shoulders, with a face of 7 feet and the ears over 3 feet.

Sesostris erected in the temple in Memphis immense statues of himself and his wife, 50 feet high, and of his children, 28 feet.

In the Temple of the Sun, at Baalbec, are stones more than 60 feet long, 24 feet thick and 16 broad, each embracing 23,000 cubic feet, cut, squared, sculptured and transported from neighboring quarries. Six enormous columns are each 72 feet high, composed of 3 stones 7 feet in diameter. Sesostris is credited with having transported from the mountains of Arabia a rock 32 feet wide and 240 feet long.

The engineering appliances used by the ancients in the movement of these immense masses are but imperfectly understood at the present day.

During modern times, a block of granite weighing 1,217 tons, now used as the pedestal of the equestrian statue of Peter the Great, at St. Petersburg, was transported 4 miles by land over a railway and 13 miles in a vast caisson by water. The railway consisted of two lines of timber furnished with hard metal grooves; between these grooves were placed spheres of hard brass about 6 inches in diameter. On these spheres the frame with its massive load was easily moved by 60 men, working at capstans with treble purchase blocks.

In 1716 Swedenborg contrived to transport (on rolling machines of his own invention) over valleys and mountains, 2 galleys, 5 large boats and 1 sloop, from Stromstadt to Iderfjol (which divides Sweden from Norway on the South), a distance of 14 miles, by which means Charles XII. was able to carry on his plans, and under cover of the galleys and boats to transport on pontoons his heavy artillery to the very walls of Frederickshall.

As an exponent of the laws of friction, it may be stated that a square stone weighing 1,080 lbs. which required a force of 758 lbs. to drag it along the floor of a quarry, roughly chiseled, required only a force of 22 lbs. to move it when mounted on a platform and rollers over a plank floor.

Water is the absolute master, former and secondary agent of the power of motion in everything terrestrial. It is the irresistible power which elaborates everything, and the waters contain more organized beings than the land.

Rivers hold in suspension 100th of their volume (more or less) of mud, so that if 36 cubic miles of water (the estimated quantity) flow daily into the sea, 0.36 cubic miles of soil are daily displaced. The Rhine carries to the sea every day 145,980 cubic feet of mud. The Po carries out the land 228 feet per annum, consequently Adria which 2,500 years ago was on the sea, is now over 20 miles from it.

The enormous amount of alluvium deposited by the Mississippi is almost incalculable, and constantly renders necessary extensive engineering operations in order to remove the impediments to navigation.

Foreign Nations and their Rulers.

WITH POPULATION, AREA IN SQUARE MILES, CAPITAL, FORMS OF GOVERNMENT, RULERS, ETC.

COUNTRIES.	Population.	Square Miles.	Capitals.	Form of Government.	Present Head.	Title.	Accessor.	Present Age.
China	404,180,000	4,179,559	Peking	Abs. Desp	Tsaiti'en	Emp	1875	20
British Empire	315,855,000	8,991,254	London	Lim. Mon	Victoria	Queen	1837	73
Russian Empire	202,683,124	8,459,229	St. Petersburg	Abs. Mon	Alexander III	Emp	1881	46
France & Colonies	63,672,048	970,477	Paris	Republic.	Carnot	Pres	1887	54
United States	....	3,602,990	Washington	Republic.	Benj. Harrison	Pres	1889	58
German Empire	45,234,061	211,168	Berlin	Lim. Mon	Wilhelm II	Emp	1888	32
Austro-Hung. Emp	40,627,231	261,591	Vienna	Lim. Mon	Francis Joseph I	Emp	1848	61
Japan	39,069,007	147,669	Tokio	Lim. Mon	Mutsuhito	Emp	1867	39
Holland & Colonies	33,042,238	778,187	The Hague	Lim. Mon	William III	King	1849	74
Turkish Empire	33,359,787	1,731,280	Constantin'ple	Abs. Mon	Abdul Hamid II	Sultan	1876	49
Italy	30,565,253	114,410	Rome	Lim. Mon	Humbert	King	1878	47
Spain & Colonies	24,872,621	361,953	Madrid	Lim. Mon	Alfonso XIII	King	....	5
Sokoto	12,600,000	178,000	Sokoto	Abs. Desp	....	Sultan	....	..
Corea	10,519,000	91,430	Snel	Monarchy	Li-hi	....	1864	..
Brazil	14,002,335	3,209,878	Rio de Janeiro	Republic.	Fonseca	Pres	1889	...
Mexico	11,388,664	551,177	Mexico	Republic.	Porfirio Diaz	Pres	1884	..
Congo State	27,000,000	1,056,200	....	Fr. State.	Leopold	So'er'g n	1876	56
Persia	7,653,600	636,000	Teheran	Abs. Desp	Nasser ed Deen	Shah	1848	60

FOREIGN NATIONS AND THEIR RULERS, ETC.—(Continued).

COUNTRIES.	Population	Square Miles.	Capitals.	Form of Government.	Present Head.	Title.	Accessor.	Present Age.
Portugal & Colonies	7,249,050	240,691	Lisbon........	Lim. Mon	Carlos I...........	King....	1889	28
Egypt............	6,806,381	494,000	Cairo....	Abs. Mon	Mohammed Teyfik	Khedive	1879	39
Sweden & Norway.	6,554,448	295,714	Stockholm....	Lim. Mon	Oscar II...........	King....	1872	62
Morocco...........	6,500,000	314,000	Fez	Abs. Desp	Mulai Hassan......	Sultan ..	1873	60
Belgium...........	6,030,043	11,373	Brussels......	Lim. Mon	Leopold II........	King....	1865	56
Siam..........	5,700,000	280,550	Bangkok... ..	Abs. Desp	Knulalonkorn I...	King...	1868	38
Roumania..........	5,376,000	46,314	Bucharest	Lim. Mon	Charles I..........	Prince ..	1666	52
Colombia...........	4,000,000	504,773	Bogoto	Republic.	Rafael Nunez.....	Pres.....	1884	..
Afghanistan	4,000,000	279,000	Cabul	Abs. Desp	Abdur'hm'n Kahn	Amir ...	1880	..
Argentine Republic	3,026,000	109,513	Buenos Ayres.	Republic.	Julio A. Roca.....	Pres.....	1880	..
Madagascar........	3,000,000	228,570	Antananarivo.	Abs. Desp	Ranavalo III	Queen...	1883	30
Abyssinia..........	7,360,000	244,000	....	Abs. Desp	Menelek II........	Sultan ..	1889	..
Saxony	3,182,003	5,856	Dresden	Lim. Mon	Albert	King....	1873	63
Peru	2,970,000	805,040	Lima..........	Republic.	Caceres...........	Pres.....	1886	..
Switzerland........	2,917,819	15,981	Berne	Republic.	L. Ruchonnet.....	Pres.....	1890	..
Bolivia	2,32 ,000	772,548	Sucre	Republic.	Aniceto Arce......	Pres....	1888	..
Bokhara...........	2,130,000	92,300	Samarcand....	Abs. Desp	Abdul Ahad.......	Ameer .	1885	31
Venezuela.........	2,121,988	632,695	Caracas.......	Republic.	Palacio	Pres.....	1890	..
Chili...............	2,665,926	307,525	Santiago.... ..	Republic.	Balmaceda........	Pres.....	1886	..
Denmark	2,045,179	14,842	Copenhagen ..	Lim. Mon	Christian IX......	King....	1863	73

FOREIGN NATIONS AND THEIR RULERS, ETC.—(Continued).

COUNTRIES.	Population.	Square Miles.	Capitals.	Form of Government.	Present Head.	Title.	Accessor.	Present Age.
Bulgaria..........	3,154,375	24,700	Sofia	Lim. Mon	Ferdinand	Prince...	1886	30
Greece............	2.187,208	25,041	Athens........	Lim. Mon	George I....	King....	1864	46
Wurtemburg.	1.995,185	7,619	Stuttgart	Lim. Mon	Charles I	King....	1864	68
Servia.............	2,013,691	18,855	Belgrave......	Lim. Mon	Alexander I.......	King....	1882	15
Oman..............	1,600,000	82,000	Muscat........	Abs. Mon	Seyyid fin Turki..	Sultan..	1888	..
Guatemala.........	1,427,116	46,774	N'wGuat'mala	Republic.	M. L. Barillas.....	Pres.....	1886	..
Ecuador	1,146,000	248,312	Quito..........	Republic.	Flores.............	Pres.....	1888	..
Tripoli.	1,010,000	399,000	Tripoli........	Abs. Mon	Ahmed Rassim....	Gov.Gen	1881	...
Transvaal.........	800,000	110,193	Pretoria.......	Republic.	Kruger............	Pres.....	1883	..
Salvador..........	664,513	7,228	San Salvador..	Republic.	Fr. Menendez.....	Pres.....	1887	..
Uruguay.....	651,112	72,112	Montevido....	Republic.	Hereira y Obes....	Pres.....	1890	..
Paraguay..........	476,000	92,000	Asuncion	Republic.	Escobar...........	Pres.....	1886	..
Honduras..........	458,000	46,400	Tegucigalpa ..	Republic.	Louiz Bogran.....	Pres.....	1883	..
Nicaragua.........	400,000	51,660	Managua	Republic.	Guera.......	Pres.....	.....	..
Dominica..........	300,000	20,596	San Domingo.	Republic.	Gen. Bellini.......	Pres.....	1884	..
Montenegro..	245,380	3,630	Cetigno	Abs. Mon	Nicholas..........	Prince ..	1860	50
Costa Rica...	205,730	19,985	Jan Jose	Republic.	Bernado Soto.....	Pres.....	1885	...
Orange Free State..	133,518	41,484	Bloemfontein.	Republic.	Judge Reitz.......	Pres.....	1889	..
Hayti............	572,000	10,204	Port-au-Prince	Republic.	Hyppolite....	Pres.....	1889	..
Hawaii...........	80,578	6,677	Honolulu	Lim. Mon	Lilinokalani	Queen...	1891	..

The Mayflower's Passengers.

A true list of the male passengers who landed at Plymouth in the Mayflower.

Mr. Isaac Allerton,
John Alden,
John Allerton,
Mr. William Bradford,
Mr. William Brewster,
John Billington,
Peter Brown,
Richard Britterage,
Mr. John Carver,
Francis Cook,
James Chilton.
John Crackston,
Richard Clarke,
Edward Dotey,
Francis Eaton,
Thomas English,
Mr. Samuel Fuller.
Edward Fuller,
Moses Fletcher,
John Goodman,
Richard Gardiner,
John Howland,
Mr. Stephen Hopkins,
Edward Leister,
Mr. Christopher Martin,
Mr. William Mullins,
Edmund Margeson,
Degony Priest,
Thomas Rogers,
John Rigdale,
Captain Miles Standish,
George Soule,
Edward Tilly,
John Tilly,
Thomas Tinker,
John Turner,
Mr. Edward Winslow,
Mr. William White,
Mr. Richard Warren,
Thomas Williams,
Gilbert Winslow.

AND SERVANTS AS FOLLOWS;

Carter,
Coper,
Ely,
Holbeck,
Hooke,
Langemore,
Latham,
Minter,
More,
Prower,
Sampson,
Story,
Thompson,
Trevore,
Wilder.

The Eleven Great Wonders in America.

Croton Aqueduct, in New York City.

City Park, Philadelphia, Pennsylvania. The largest park in he world.

Lake Superior. The largest lake in the world.

Mammoth Cave, in Kentucky.

Niagara Falls. A sheet of water three-quarters of a mile wide, with a fall of 175 feet.

Natural Bridge, over Cedar Creek, in Virginia.

New State Capitol, at Albany, N. Y.

New York and Brooklyn Bridge.

The Central Park, in New York City.

Washington Monument, Washington, D. C., 555 feet high.

Yosemite Valley, California; 57 miles from Coulterville. A valley from 8 to 10 miles long, and about one mile wide. Has very steep slopes about 3,500 feet high; has a perpendicular precipice 3,089 feet high; a rock almost perpendicular, 3,270 feet high; and waterfalls from 700 to 1,000.

FACTS ABOUT THE HUMAN BODY.

The weight of the male infant at birth is 7 lbs. avoirdupois; that of the female is not quite 6½ lbs. The maximum weight (140¼ lbs.) of the male is attained at the age of 40; that of the female (nearly 124 lbs.) is not attained until 50; from which ages they decline afterwards; the male to 127½ lbs., the female to 100 lbs., nearly a stone. The full-grown adult is 20 times as heavy as a new-born infant. In the first year he triples his weight, afterwards the growth proceeds in geometrical progression, so that if 50 infants in their first year weigh 1,000 lbs., they will in the second weigh 1,210 lbs.; in the third 1,331; in the fourth 1,464 lbs.; the term remaining very constant up to the ages of 11-12 in females, and 12-13 in males, where it must be nearly doubled; afterwards it may be continued, and will be found nearly correct up to the age of 18 or 19, when the growth proceeds very slowly. At an equality of age the male is generally heavier than the female. Towards the age of 12 years only an individual of each sex has the same weight. The male attains the maximum weight at about the age of 40, and he begins to lose it very sensibly towards 60. At 80 he loses about 13.2328 lbs., and the stature is diminished 2.756 inches. Females attain their maximum weight at about 50. The mean weight of a mature man is 140 lbs., and of an average woman 94 lbs. In old age they lose about 12or 14 lbs. Men weigh most at 40, women at 50, and begin to lose weight at 60. The mean weight of both sexes in old age is that which they had at 19.

When the male and female have assumed their complete development they weigh almost exactly 20 times as much as at birth, while the stature is about 3½ times greater.

Children lose weight during the first three days *after birth;* at the age of a week they sensibly in*crease; after* one year they triple their weight, the they require six years to double their weight, and 13 to quadruple it.

It has been computed that nearly two years' sickness is experienced by every person before he is 70 years old, and therefore that 10 days per annum is the average sickness of human life. Till 40 it is but half, and after 50 it rapidly increases. The mixed and fanciful diet of man is considered the cause of numerous diseases from which animals are exempt. Many diseases have abated with changes of diet, and others are virulent in particular countries, arising from peculiarities.

Human Longevity.—Of 100,000 male and female children, in the first month they are reduced to 90,396, or nearly a tenth. In the second, to 87,936. In the third, to 86,175. In the fourth, to 84,720. In the fifth, to 83,571. In the sixth, to 82,526, and by the end of the first year to 77,528, the deaths being 2 to 9. The next four years reduces the 77,528 to 62,448, indicating 37,552 deaths before the completion of the fifth year.

At 25 years the 100,000 are half, or 49,995; at 52, one-third. At 58½ a fourth, or 25,000; at 67, a fifth, at 76, a tenth; at 81, a twentieth, or 5,000; and ten attain 100. Children die in large proportions because their disease cannot be explained, and because the organs are not habituated to the functions of life. The mean of life varies in different countries from 40 to 45. A generation from father to son is about 30 years; of men in general 5-6ths die before 70, and 15-16ths before 80. After 80 it is rather endurance than enjoyment. The nerves are blunted, the senses fail, the muscles are rigid, the softer tubes become hard, the memory fails, the brain ossifies, the affections are buried, and hope ceases. The 16th die at 80; except a 133d, at 90. The remainder die from inability to live, at or before 100.

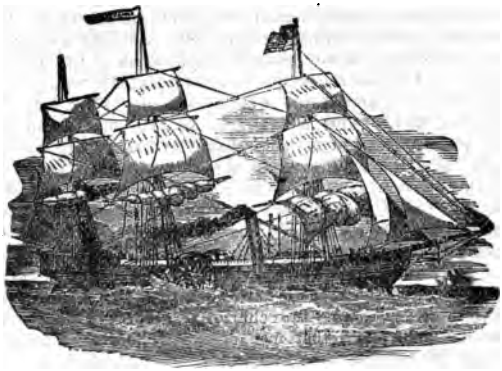
About the age of 36 the lean man usually becomes fatter and the fat man leaner. Again, between the years 43 and 50 his appetite fails, his complexion fades, and his tongue is apt to be furred on the least exertion of body or mind. At this period his muscles become flabby, his joints weak; his spirits droop, and his sleep is imperfect and unrefreshing. After suffering under these complaints a year, or perhaps two, he starts afresh with renewed vigor, and goes on to 61 or 62, when a similar change takes place, but with aggravated symptoms. When these grand periods have been successively passed, the gravity of incumbent years is more strongly marked, and he begins to boast of his age.

In Russia, much more than in any other country, instances of longevity are numerous, if true. In the report of the Holy Synod, in 1827, during the year 1825, and only among the Greek religion, 848 men had reached upwards of 100 years of age; 32 had passed their 120th year; 4 from 130 to 135. Out or 606,818 men who died in 1826, 2,765 were above 90; 1,432 above 95; and 848 above 100 years of age. Among this last number 88 were above 115; 24 more than 120; 7 above 125; and one 130. Riley asserts that Arabs in the Desert live 200 years.

On the average, men have their first-born at 30 and women at 28. The greatest number of deliveries take place between 25 and 35. The greatest number of deliveries take place in winter months, and in February, and the smallest in July, *i. e.*. to February, as 4 to 5 in towns and 3 to 4 in the country. The night births are to the day as 5 to 4.

Human Strength.—In Schulze's experiments on human strength, he found that men of five feet, weighing 126 lbs., could lift vertically 156 lbs. 8 inches; 217 lbs. 1.2 inches. Others, 6.1 feet, weighing 183 lbs., 156 lbs. 13 inches, and 217 lbs. 6 inches; others 6 feet 3 inches, weighing 158 lbs., 156 lbs. 16 inches, and 217 lbs. 9 inches. By a great variety of experiments he determined the mean human strength at 30 lbs., with a velocity of 2.5 feet per second; or it is equal to the raising half a hogshead 10 feet in a minute.

A good authority reckoned 1 horse equal to 5 men. Porters carry from 150 to 250 pounds. A man draws horizontally 70 to 80 lbs., and thrusts at the height of his chest 28 or 30 lbs. In hot climates men cannot perform half the continued labor. A man's mean labor is sufficient to raise 10 lbs. 10 feet in a second, for 10 hours per day, or 100 lbs. 1 foot in a second, or 36,000 feet in 10 hours; that is, 100 pounds per day would be 3,600,000 feet in a day, which he calls a dynamic unit. The force of a man in turning a winch is taken at 116 lbs.; or as much as would raise 256 lbs. 3,281 feet in a day; his force in pumping is as 190, or equal to 410 lbs. in 3,281 feet; in ringing, 259, or 572 lbs. in 3,281 feet; and in rowing 273, or 608 lbs. in 3,281 feet. In working a pump, a winch, a bell, and rowing, the effects are as 100. 167, 227 and 248. A man with an augur exerts a force of 100 lbs., with a screw-driver of 84 lbs., with a windlass 60 lbs., a hand-plane 50 lbs., a hand-saw 36 lbs.



Steamer "Savannah," the First that Crossed the Atlantic.

The Times (of London, England), in the issue of May 18, 1819, thus announced the expected event:

"GREAT EXPERIMENT.—A new steam-vessel of 300 tons has been built at New York for the express purpose of carrying passengers across the Atlantic. She is to come to Liverpool direct."

This steamer, named the Savannah, the first that crossed the Atlantic, was built at New York by Francis Ficket. Her engines were made by Stephen Vail, of Morristown. She was launched on the 22d of August, 1818. She could carry only seventy-five tons of coal and twenty-five cords of wood. Commanded by Captain Moses Rogers, of New London, Conn., the Savannah sailed from Savannah, Ga., on the 25th of May, 1819, *bound for St.* Petersburg via Liverpool. She reached *the latter port* on the 20th of June, having used steam *eighteen days* out of the twenty-six

OCEAN STEAMSHIPS.

RECORD OF FASTEST TIME.

Queenstown to New York—5d. 19h. 5m., mean time, Teutonic, White Star line; sailed 2.15 p. m. Aug. 7, arrived 4.20 a. m. Aug. 13, 1890. Time computed from Roche's Point (Daunt's Rock lightship) to Sandy Hook lightship, adding 5h. for difference in time. Fastest ocean passage.

Same—5d. 19h. 18m., mean time, City of Paris, Inman line, sailed 2.09 p. m. Aug. 22, arrived 4.27 a. m. Aug. 28, 1889. Time computed from Roche's Point to Sandy Hook lightship, adding 4h. 22m. for difference in time. Fastest by this line.

Same—6d. 1h. 50m., mean time, Etruria, Cunard line, sailed 1.16 p. m. Sept. 1, arrived 10.31 a. m. Sept. 7, 1889. Computed from Roche's Point to Sandy Hook bar, adding 4h. 35m. for difference in time. Fastest by this line.

Same—6d. 15h. 41m., America, National line; sailed 11.30 a. m. May 29, arrived 10.15 p. m. June 4, 1884. Computed from Kinsale to Sandy Hook, adding 4h. 56m.

Same—6d. 20h. 23m., Alaska, Guion line; sailed 1 p. m. Sept. 30, arrived 5 a. m. Oct. 7, 1888. Computed from Roche's Point to Sandy Hook, adding 4h. 35m.

New York to Queenstown—6d. 3h. 4m., mean time, Umbria, Cunard line; sailed 2.29 p. m. Nov. 12, arrived 10.08 p. m. Nov. 18, 1888. Computed from bar off Sandy Hook to Roche's Point, deducting 4h. 35m. for difference. Fastest eastward passage.

Same—6d. 13h. 44m., America, National line; sailed 9.45 a. m. June 11, arrived 4.25 a. m. June 18, 1884. Computed from Sandy Hook to Kinsale, deducting 4h. 56m.

Same—6d. 18h. 37m., Alaska, Guion line; sailed 6.21 p. m. Sept. 12, arrived 5.20 p. m. Sept. 19, 1882. Computed from Sandy Hook to Roche's Point, deducting 4h. 35m.

Same—7d. 9h. 0m., Germanic, White Star line; sailed 12.23 p. m. Feb. 6, arrived 1.45 a. m. Feb. 14, 1889. Computed from Sundy Hook to Roche's Point, deducting 4h. 22m.

Same—7d. 15h. 48m., City of Berlin, Inman line; sailed 9 a. m., Oct. 2, arrived 5.10 a. m., Oct. 10, 1875. Computed from Sandy Hook to Roche's Point, deducting 4h. 22m.

Liverpool to New York—6d. 19h. 47m., Etruria, Cunard line, sailed 3.13 p. m. Feb. 12, arrived 6 a. m. Feb. 19, 1837. Distance, 3,108 knots.

New York to Southampton, Eng.—6d. 15h. 23m., mean time, Columbia, Hamburg-American Packet Company, sailed 3.47 p. m. Oct. 9, arrived 12.02 m., Oct. 16, 1890. Computed from Sandy Hook to the Needles,, deducting 4h. 52m. for difference in time. Fastest passage.

New York to Southampton, Eng.—6d. 23h. 18m.. mean time, Lahn, North German Lloyd line; sailed 120 p. m. Oct. 2, arrived 5.30 p. m. Oct. 9, 1889. Computed from Sandy Hook to the Needles, deducting 4h. 52m. for difference.

Southampton to New York—6d. 16h. 2m., mean time, Columbia, Hamburg-American Packet Company; sailed 2.52 p. m., June 6, arrived 2.02 a. m. June 13, 1890. Computed from the Needles to Sandy Hook, adding 4h. 52m. for difference in time. Fastest westward passage.

Same—6d. 22h. 42m., mean time, Lahn, North German Lloyd, line; sailed 6.00 p. m. Aug. 22, arrived 11.40 a. m. Aug. 29, 1889. Computed from the Needles to Sandy Hook, adding 4h. 52m. for difference.

New York to Havre, France—7d. 8h. 29m., mean time, La Bourgogne, French line; sailed 9.35 a. m., Nov. 19, arrived 11 p. m., Nov. 26, 1887. Computed from Sandy Hook to Havre (3,159 miles), deducting 4h. 56m. for difference in time. To Paris, 7d. 12h. 29m.

Havre, France, to New York—7d. 7h. 4m., mean time, La Bretagne, French line; sailed April 13, arrived April 20, 1889. Distance run, 3,169 miles. Computed from Havre to Sandy Hook, adding 4h. 56m. for difference.

New York to Galveston, Tex.—6d. 2h. 43m. (actual running time, 5d. 16h 5m.), Alamo, S. Risk, master, N. Y., and T. S. S. Co., sailed 4.40 p. m., Feb. 27, arrived 6 p. m., March 5, 1886. Computed from dock to dock, adding 1h. 23m. for difference in time. Running time is computed from Scotland Lightship to Key West sea buoy going in, and from latter buoy coming out to where ship was stopped for pilot off Galveston sea buoy; distance between those points, 1,866 miles.

Galveston to New York—5d. 20h. 12m. (actual running time, 5d. 8h. 58m.), Alamo, S. Risk master, N. Y. and T. S. S. Co.; sailed 5.25 p. m., Sept. 30, arrived 3 p. m., Oct. 6, 1885. Computed from dock to dock, deducting 1h. 23m. for difference in time. Distance, 1,891 miles.

New York to Havana, Cuba—3d. 9h. 33m., Newport, N. Y. & M. line; sailed 4.55 p. m., May 20, arrived 1.45 a. m., May 1882. Computed from Sandy Hook to harbor, adding 33m difference in time.

Same—3d. 11h. 3m., mean time, City of Puebla, N. Y., H. & M. line; sailed 5.00 p. m. June 15, arrived 3.30 a. m. June 19, 1882. Distance sailed, 1,230 miles. Computed from Sandy Hook to Morro Castle, adding 33m. for difference in longitude. Fastest southward passage by this line.

Havana to New York—2d. 23h. 45m., City of Puebla, N. Y., H. & M. line: sailed 6.58 p. m., June 30, arrived 7.16 p. m., July 3, 1883. Computed from Morro Castle to Sandy Hook, deducting 33m. for difference in time. Fastest passage.

Same—3d. 56m., Newport, N. Y. & C. M. line; sailed 5.55 p. m., July 23, arrived 7.24 p. m., July 26, 1881. Computed from harbor to Sandy Hook, deducting 33m.

New Orleans to New York—4d. 14h. 56m., Louisiana, Cromwell line; sailed 8.15 a. m. July 20, arrived at 1 a. m. July 25, 1882. Computed from wharf to wharf, including stoppages.

Same—4d. 17h. 30m., Eureka, L. and T. R. R. and S. S. Co.; sailed 12 m. July 26, arrived 6.30 a. m. July 31, 1885. Computed from wharf to wharf, deducting 1h. for difference. Fastest by this line.

New York to New Orleans—4d. 23h. 28m., Louisiana, Cromwell line; sailed 4.35 p. m. May 1, arrived 4.03 p. m. May 6, 1886. Computed from wharf to wharf, including detentions.

Same—5d. 2h., Eureka, L. and T. R. R. and S. S. Co.: sailed 5. p. m. Dec. 26, arrived 6 p. m. Dec. 31, 1885. Computed from dock to dock, adding 1h. for difference.

Aspinwall to New York—6d. 5h. 30m., Henry Chauncey; sailed 5.55 a. m., Nov. 13, arrived 11.25 p. m., Nov. 19, 1865. Computed from pier to pier.

New York to Nassau, N. P.—3d. 1h. 45m., Cienfuegos; sailed 4.45 p. m. Feb. 14, arrived at anchorage 6.30 p. m. Feb. 17, 1883. No time allowance; 75th meridian standard.

Yokohama, Japan, to New York—Steamer Glenshiel, Glen line; sailed June 4, arrived July 30, 1887, carrying cargo of 5,000 tons of tea.

Yokohama, Japan, to San Francisco, Cal.—12d. 20h. 54m.; China, Pacific Mail Co.'s line, sailed Nov. 24, arrived Dec. 6, 1889.

Hong Kong, China, to San Francisco—21d. 12h., Gaelic, Occidental and Oriental line; arrived April 30, 1889.

Cape Town, S. Af., to Plymouth, Eng.—17d. 17h. 25m., including *detentions* at St. Helena, Ascension and Madeira; net *steaming time, 17d.* 6h. 40m. Distance, 6,071 miles; average *speed, 14.66* knots per hour; arrived Feb. 3, 1889.

Greatest 24 hour run by an ocean steamer—511 miles, City of *Paris, Inman line*, latitude 41.11, longitude 65.21, May 7, 1889

Foreign Carrying Trade.

Values of the imports and exports of the United States carried in American vessels and foreign vessels during each fiscal year 1857 to 1890 inclusive, with the percentage carried in American vessels.

YEAR ENDING JUNE 30.	IMPORTS.		EXPORTS.		PER CENT IN AM. VESSELS.
	IN AMER. VESSELS.	IN FOREIGN VESSELS.	IN AMER. VESSELS.	IN FOREIGN VESSELS.	
1857...	$259,116,170	$101,773,971	$251,214,857	$111,745,825	70.50
1858...	203,700,016	78,913,134	243,491,288	81,153,133	73.70
1859...	216,123,428	122,644,702	249,617,953	107,171,509	66.90
1860...	228,164,855	134,001,399	279,082,902	121,039,394	66.50
1861...	201,544,055	134,106,098	179,972,733	69,372,180	65.20
1862...	92,274,100	113,497,629	125,421,318	104,517,697	50.00
1863...	109,744,580	143,175,340	132,127,891	199,880,691	41.40
1864...	81,212,079	248,350,818	102,849,409	237,442,730	27.50
1865...	74,385,116	174,170,536	93,017,756	262,839,588	27.50
1866...	112,040,395	333,471,763	213,671,466	351,754,928	32.20
1867...	117,209,536	300,622,035	180,625,368	280,708,368	33.90
1868...	122,965,225	248,659,583	175,016,348	301,886,491	35.10
1869...	136,802,024	300,512,231	153,154,748	285,971,781	33.10
1870...	153,237,077	309,140,510	199,732,324	329,786,978	35.60
1871...	163,285,710	363,020,644	190,378,462	932,801,932	31.20
1872...	177,286,302	445,416,783	162,044,799	393,929,579	28.50
1873...	174,739,834	471,806,765	171,566,758	494,915,886	25.80
1674...	176,027,778	405,320,135	174,424,216	533,885,971	26.70
1875...	157,872,726	382,949,568	156,385,066	501,838,949	25.80
1876...	143,380,704	321,139,500	167,686,467	492,215,487	33.10
1877...	151,834,067	329,565,833	164,826,214	530,354,703	26.50
1878...	146,499,282	307,407,565	166,551,624	569.583,564	25.90
1879...	143,599,353	310,499,599	128,425,339	600,769,633	22.60
1880...	149,317,368	503,494,913	109,029,209	720,770,521	17.18
1881...	133,631,146	491,840,269	116,955,324	777,162,714	16.22
1882...	130,266,826	571,517,802	96,961,919	641,460,967	15.40
1883...	136,002,290	564,175,576	104,418,210	694,331,348	15.54
1884...	135,046,207	512,511,192	98,652,828	615,287,007	16.60
1885...	112,864,052	443,513,801	82,001,691	636,004,765	14.76
1886...	118,942,817	491,937,636	78,406,686	581,973,477	15.01
1887...	121,365,493	543,392,216	72,991,253	621,802,292	13.80
1888...	123,825,298	568,222,357	67,332,175	606,474,964	13.44
1889...	*120,782,910*	586,120,881	83,022,198	630,942,660	13.70
1890...	*124,948,948*	623,740,100	77,502,138	747,387,544	12.29

Armies and Navies of the Principal Nations.

CORRECTED TO 1891.

Austria-Hungary.—Regular army, 1890, 323,193; war-footing, 1,631,138. Navy, 118 vessels, of which 11 are iron-clads; officers and men, 8,549.

Belgium.—The army, is composed of 3,402 officers, 47,091 soldiers on pay, and 42,827 without pay; total on war-footing, 148,060.

Brazil.—Regular army, 15,689; war-footing, 29,617. Navy, 10 iron-clads, 45 other vessels, and 9 for port service; men and officers, 5,790.

Chili.—Regular army, 5,835; war-footing, 54,365. Navy, 33 vessels, including 3 iron-clads.

China.—Regular army, about 656,459; war-footing, 1,260,000. Navy, 97 vessels.

Denmark.—Reg. army, 16,653; reserves, 74,000. Navy, 92 steamers, of which 10 are armorclad.

Egypt.—Regular army, 9,400 Navy, 14 vessels.

France.—By a law which went into force June 1, 1873, and supplemented in 1890, every Frenchman capable of bearing arms is made liable to twenty-five years' military service, viz.: Four in the standing army, five in the reserve of the standing army, five in the territorial army. and six in the reserve of the territorial army. This gives France a force of about 555,330 in time of peace, and 3,750,000 on a war-footing. Navy, 1891, 437 vessels, of which 32 are first rate iron-clads; sailors and marines, about 54,813.

Germany.—Regular army, 491,955; war-footing, 3,000,000. Navy, 229 vessels, including 26 iron-clads; men, about 16,127.

Great Britain.—In the British army the term of service is twelve years, after which a soldier can serve for nine years more. The strength of the regular army is 690,629, distributed as follows: 142,498 in Great Britain, and in the colonies and in India 72,424. Navy, 62 iron-clads, about 373 *steamers and* sailing vessels. These vessels are *manned by* 65,400, including all ranks.

Italy—According to official statement July 1st, 1889, permanent army consisted of 255,418 and on unlimited leave 588,651. The militia consisted of 298,900, mobile, and 1,622,404 territorial—making a grand total of 2,765,373 men and officers. Navy, 260 ships, 58 of which are of iron and steel. Total of all ranks of navy, 55,715.

Japan.—Regular army, 60,456; war-footing, 307,861. Navy, 50 steam vessels, including three iron-clads; men, 9,291.

Mexico.—Reg. army, 27,244. Navy, 5 gunboats.

Netherlands.—Regular army in Europe, 28,644; war-footing, 55,000. Navy, 141 vessels.

Norway.—Regular army, 40,850. Navy, 50 vessels, 27,000 men.

Persia.—Army, peace-footing, usually about 24,500; war-footing, 105,500.

Peru.—Reg. army, 5,900. Navy, three vessels.

Portugal.—Reg. army, 33,294; war-footing, about 150,000. Navy, 44 steamers and 13 sailing vessels.

Roumania.—Reg. army, 38,871; territorial, 81,843.

Russia.—The nominal strength of the army is 814,000; war-footing, 1,715,350. Navy, 387 vessels, of which 44 are armor-clad; men, about 26,000.

Spain.—Army, peace, 144,664; war-footing, 401,190. Navy, 99 vessels, including six iron-clads.

Sweden.—Regular army, 350,356. Navy, 62 steamers and 3,989 men.

Switzerland.—Effective strength of army—Elite class, 125,570; Landwehr class, 80,715; Landsturm class, 262,766.

Turkey.—Army on peace-footing, about 158,810: war-footing, estimated 800,000. Navy, 15 iron-clads and 106 other vessels manned by 30,929 men and officers and 9,460 marines.

United States.—Actual enlisted strength of army June 30, 1889, 2,165 officers and 26,243 men. Organized militia, 100,000. The number of citizens eligible in case of war is over 6,000,000. Navy, 102 vessels, 7,500 enlisted men.

Men Called by President Lincoln During the Late War.

The total number called for, under all calls made by the President, from April 15, 1861, to April 14, 1865, was 2,759,049.

Their terms of service under the calls were from three months to three years.

United States Soldiers in the Late Civil War.

	Aggregate.
New York	455,568
Pennsylvania	366,326
Ohio	317,133
Illinois	258,217
Indiana	195,147
Massachusetts	151,785
Missouri	107,773
Wisconsin	96,118
Michigan	90,119
New Jersey	79,511
Kentucky	78,540
Iowa	75,860
Maine	71,745
Connecticut	52,270
Maryland	49,730
Vermont	35,256
New Hampshire	34,605
West Virginia	30,003
Minnesota	25,034
Rhode Island	23,711
Kansas	20,097
District of Columbia	16,872
Delaware	13,651
Total	2,653,062

Colored Troops in U. S. Army During the War.

Louisiana	24,052
Kentucky	23,703
Tennessee	20,133
Mississippi	17,869
Maryland	8,718
Pennsylvania	8,612
Missouri	8,344
Virginia	5,723
Arkansas	5,526
South Carolina	5,462
Ohio	5,092
North Carolina	5,035
Alabama	4,969
New York	4,125
Massachusetts	3,966
Georgia	3,486
District of Columbia	3,269
Kansas	2,080
Rhode Island	1,837
Illinois	1,811
Connecticut	1,764
Indiana	1,597
Michigan	1,387
New Jersey	1,185
Florida	1,044
Delaware	954
At large	733
Iowa	440
West Virginia	196
Wisconsin	155
New Hampshire	125
Vermont	120
Maine	104
Minnesota	104
Colorado Territory	95
Texas	47
Officers	7,122
Not accounted for	5,083
Total	186,01

The Nation's Dead.

A recent report shows that the nation's dead are buried in seventy-nine national cemeteries, of which twelve are in the Northern States. Among the principal ones in the North are Cyprus Hill, Brooklyn, N. Y., with its 3,786 dead; Finn's Point, N. J., which contains the remains of 2,644 unknown dead; Gettysburg, Pa., with its 1,967 known and 1,608 unknown dead; Mound City, Ill., with 2,505 known and 2,721 unknown graves; Philadelphia, with 1,909 dead, and Woodlawn, Elmira, N. Y., with its 3,090 dead. In the South, near the scenes of terrible conflicts, are located the largest depositories of the nation's heroic dead:

Arlington, Va., 16,264, of whom 4,349 are unknown.

Beaufort, S. C., 9,241, of whom 4,493 are unknown.

Chalmette, La., 12,511, of whom 5,674 are unknown.

Chattanooga, Tenn., 12,962, of whom 4,963 are unknown.

Fredericksburg, Va., 15,257, of whom 12,770 are unknown.

Jefferson Barracks, Mo., 11,490, of whom 2,906 are unknown.

Little Rock, Ark., 5,602, of whom 2,337 are unknown.

City Point, Va., 5,122, of whom 1,374 are unknown.

Marietta, Ga., 10,151, of whom 2,963 are unknown.

Memphis, Tenn., 13,997, of whom 8,817 are unknown.

Nashville, Tenn., 16,526, of whom 4,701 are unknown.

Poplar Grove, Va, 6,199, of whom 4,001 are unknown.

Richmond, Va., 6,542, of whom 5,700 are unknown.

Salisbury, N. C., 12,126, of whom 12,032 are unknown.

Stone River, Tenn., 5,602, of whom 288 are unknown.

Vicksburg, Miss., 16,600, of whom 12,704 are unknown.

Antietam, Va., 4,671, of whom 1,818 are unknown.

Winchester, Va., 4,559, of whom 2,365 are unknown.

In all, the remains of 300,000 men who fought for the Stars and Stripes find guarded graves in our national cemeteries. Two cemeteries are mainly devoted to the brave men who perished in the loathsome prisons of the same name — Andersonville, Ga., which contains 13,714 graves, and Salisbury, with its 12,126 dead, of whom 12,032 are unknown.

United States Pension Statistics.

Number of Pension Claims, Pensioners and Disbursements, 1861-90.

Fiscal year ending June 30.	Army and Navy. Claims allowed.		Total number of applications filed.	Total number of claims allowed.
	Invalids.	Widows, etc.		
1861	....	....	....	....
1862	413	49	2,487	462
1863	4,121	3,763	49,332	7,884
1864	17,041	22,446	53,599	39.487
1865	15,212	24,959	72,684	40.171
1866	22,883	27,294	65,256	50,177
1867	16,589	19,893	36,753	36,482
1868	9,460	19,461	20,768	28,921
1869	7,292	15,904	26,066	23,196
1870	5,721	12,500	24.851	18.221
1871	7,934	8,399	43,969	16,562
1872	6,468	7,244	26,391	34,333
1873	6,551	4,073	18,303	16,052
1874	5,937	3,152	16,734	10,462
1875	5,760	4,736	18,704	11,152
1876	5,360	4,376	23,523	9,977
1877	7,282	3,861	22,715	11,326
1878	7,414	3,550	44,587	11,962
1879	7,242	3,379	57,118	31,346
1880	10,176	4,455	141,466	19,545
1881	21,394	3,920	31,116	27,394
1882	22,946	3,999	40,939	27,664
1883	32,014	5,303	48,776	38,162
1884	27,414	6,366	41,785	34,192
1885	27,580	7,743	40,918	35,767
1886	31,937	8,610	49,895	40,857
1887	35,283	11,217	72,465	55,194
1888	44,893	15,359	75,726	60,252
1889	36,830	11,924	81,220	51.912
1890	50,395	14,612	105,044	66,637
Total	490.402	278,004	1,353,180	855,758

United States Pension Statistics—Continued.

Fiscal y'r ending June 30.	Number of pensioners on the roll and the amount paid for pensions, with cost of disbursements.			
	Inva-lids.	Widows, etc.	Total.	Disbursements.
1861......	4,337	4,299	8.636	$ 1.072.462.00
1862......	4,341	3,818	8,159	790,385 00
1863......	7,821	6,970	14,791	1.025.140 00
1864......	23,479	27,656	51,135	4,564.617.00
1865......	35,880	50,106	85.986	8 525,153.00
1866......	55,652	71.070	126.722	13.459.996.00
1867......	69,565	83,678	153,183	18.619,956.00
1868......	75,957	93,686	169,643	24 010,982 00
1869......	82,859	105.104	187.963	28,422,884.00
1870......	87,521	111,165	198,686	27.780,812 00
1871......	93,394	114,101	207,495	33,077.384 00
1872......	113,954	118,275	232,229	30,169,341.00
1873......	119,500	118,911	238.411	29 185,290.00
1874......	121,628	114.613	236,241	30.593,750 00
1875......	122,989	111.832	234,821	29.683.117 00
1876......	124,239	107.898	232.137	28.351,600.00
1877......	128,723	103,381	222.104	28.580,157 00
1878......	131,649	92,349	223.998	26.844,415.00
1879......	138,615	104,140	242.755	33.780.526.00
1880......	145,410	105,392	250.802	57 240.540.00
1881......	164,110	104,720	268.830	50,626.539.00
1882......	182.633	103,064	285.697	54 296,281.00
1883......	206.042	97,616	303,658	60,431,973.00
1884......	225,470	97.286	322,756	57,273.537.00
1885......	247,146	97,979	345.125	65,693.767.00
1886......	270,346	95.437	365,783	64,584,270.00
1887......	306,298	99.709	406,007	74 815 486 85
1888......	343.701	108.857	452.557	79.646.146.37
1889......	351,284	173.241	489.725	88,275,113.28
1890......	*415,654*	122,290	537,944	106 493 890.19
Total..	....	....	....	$1,158,712,303.38

United States Pension Statistics.

Number of Pension Claims, Pensioners and Disbursements, 1861-90.

Fiscal year ending June 30.	Army and Navy. Claims allowed.		Total number of applications filed.	Total number of claims allowed.
	Invalids.	Widows, etc.		
1861..............	....	....	....	....
1862..............	413	49	2,487	462
1863..............	4,121	3,763	49,332	7,884
1864..............	17,041	22,446	53,599	39.487
1865..............	15,212	24,959	72,684	40.171
1866..............	22,883	27,294	65,256	50,177
1867..............	16,589	19,893	36,753	36,482
1868..............	9,460	19,461	20,768	28,921
1869..............	7,292	15,904	26,066	23,196
1870..............	5,721	12,500	24,851	18,221
1871..............	7,934	8,399	43,969	16,562
1872..............	6,468	7,244	26,391	34,333
1873..............	6,551	4,073	18,303	16,052
1874..............	5,937	3,152	16,734	10,462
1875..............	5,760	4,736	18,704	11,152
1876..............	5,360	4,376	23,523	9,977
1877..............	7,282	3,861	22,715	11,326
1878..............	7,414	3,550	44,587	11,962
1879..............	7,242	3,379	57,118	31,346
1880..............	10,176	4,455	141,466	19,545
1881..............	21,394	3,920	31,116	27,394
1882..............	22,946	3,999	40,939	27,664
1883..............	32,014	5,303	48,776	38,162
1884..............	27,414	6,366	41,785	34,192
1885..............	27,580	7,743	40,918	35,767
1886..............	31,937	8,610	49,895	40,857
1887..............	35,283	11,217	72,465	55,194
1888..............	44,893	15,359	75,726	60,252
1889..............	36,830	11,924	81,220	51.912
1890..............	50,395	14,612	105,044	66,637
Total.........	490.402	278,004	1,353,190	855,758

United States Pension Statistics—Continued.

Fiscal y'r ending June 30.	Number of pensioners on the roll and the amount paid for pensions, with cost of disbursements.			
	Invalids.	Widows, etc.	Total.	Disbursements.
1861......	4,337	4,299	8.636	$ 1,072.462.00
1862......	4,341	3,818	8.159	790,385 00
1863......	7,821	6,970	14,791	1.025.140 00
1864......	23,479	27,656	51,135	4,564.617.00
1865......	35,880	50,106	85.986	8.525,153,00
1866......	55,652	71,070	126.722	13.459,996.00
1867......	69,565	83,678	153,183	18.619,956 00
1868......	75,957	93,686	169.643	24 010,982 00
1869......	82,859	105,104	187,963	28,422,884.00
1870......	87,521	111,165	198,686	27.780,812 00
1871......	93,394	114,101	207,495	33,077.384 00
1872......	113,954	118,275	232.229	30,169,341.00
1873......	119,500	118,911	238.411	29 185,290,00
1874......	121,628	114.613	236,241	30.593,750 00
1875......	122,989	111,832	234,821	29.683.117 00
1876......	124,239	107.898	232,137	28.351,600,00
1877......	128,723	103,381	222.104	28.580,157 00
1878......	131,649	92,349	223.998	26.844,415.00
1879......	138,615	104,140	242.755	33.780.526.00
1880......	145,410	105,392	250.802	57 240.540.00
1881......	164,110	104,720	268.830	50,626.539.00
1882......	182.633	103,064	285.697	54 296,281.00
1883......	206.042	97,616	303.658	60.431,973 00
1884......	225,470	97.286	322.756	57,273.537.00
1885......	247,146	97,979	345.125	65,693.767.00
1886......	270,346	95.437	365,783	64,584,270 00
1887......	306,298	99.709	406,007	74 815 486 85
1888......	343,701	108.857	452,557	79.646.146.37
1889......	351,284	173,241	489.725	88,275,113.28
1890......	*415,654*	122,290	537,944	106 493 890.19
Total..	....	....	....	$1,158,712,303.38

United States Pension Statistics.

Number of Pension Claims, Pensioners and Disbursements, 1861-90.

Fiscal year ending June 30.	Army and Navy. Claims allowed.		Total number of applications filed.	Total number of claims allowed.
	Invalids.	Widows, etc.		
1861............	....	....	....	....
1862............	413	49	2,487	462
1863............	4,121	3,763	49,332	7,884
1864............	17,041	22,446	53,599	39,487
1865............	15,212	24,959	72,684	40,171
1866............	22,883	27,294	65,256	50,177
1867............	16,589	19,893	36,753	36,482
1868............	9,460	19,461	20,768	28,921
1869............	7,292	15,904	26,066	23,196
1870............	5,721	12,500	24,851	18,221
1871............	7,934	8,399	43,969	16,562
1872............	6,468	7,244	26,391	34,333
1873............	6,551	4,073	18,303	16,052
1874............	5,937	3,152	16,734	10,462
1875............	5,760	4,736	18,704	11,152
1876............	5,360	4,376	23,523	9,977
1877............	7,282	3,861	22,715	11,326
1878............	7,414	3,550	44,587	11,962
1879............	7,242	3,379	57,118	31,346
1880............	10,176	4,455	141,466	19,545
1881............	21,394	3,920	31,116	27,394
1882............	22,946	3,999	40,939	27,664
1883............	32,014	5,303	48,776	38,162
1884............	27,414	6,366	41,785	34,192
1885............	27,580	7,743	40,918	35,767
1886............	31,937	8,610	49,895	40,857
1887............	35,283	11,217	72,465	55,194
1888............	44,893	15,359	75,726	60,252
1889............	36,830	11,924	81,220	51,912
1890............	50,395	14,612	105,044	66,637
Total.........	490,402	278,004	1,353,180	855,758

United States Pension Statistics—Continued.

Fiscal y'r ending June 30.	Number of pensioners on the roll and the amount paid for pensions, with cost of disbursements.			
	Invalids.	Widows, etc.	Total.	Disbursements.
1861......	4,337	4,299	8,636	$ 1,072,462.00
1862......	4,341	3,818	8,159	790,385 00
1863......	7,821	6,970	14,791	1,025,140 00
1864......	23,479	27,656	51,135	4,564,617.00
1865......	35,880	50,106	85,986	8 525,153.00
1866......	55,652	71,070	126,722	13,459,996.00
1867......	69,565	83,678	153,183	18,619,956.00
1868......	75,957	93,686	169,643	24 010,982 00
1869......	82,859	105,104	187,963	28,422,884.00
1870......	87,521	111,165	198,686	27,780,812 00
1871......	93,394	114,101	207,495	33,077,384 00
1872......	113,954	118,275	232,229	30,169,341.00
1873......	119,500	118,911	238,411	29 185,290.00
1874......	121,628	114,613	236,241	30,593,750 00
1875......	122,989	111,832	234,821	29,683,117 00
1876......	124,239	107,898	232,137	28,351,600.00
1877......	128,723	103,381	222,104	28,580,157 00
1878......	131,649	92,349	223,998	26,844,415.00
1879......	138,615	104,140	242,755	33,780,526.00
1880......	145,410	105,392	250,802	57 240,540.00
1881......	164,110	104,720	268,830	50,626,539.00
1882......	182,633	103,064	285,697	54 296,281.00
1883......	206,042	97,616	303,658	60,431,973 00
1884......	225,470	97,286	322,756	57,273,537.00
1885......	247,146	97,979	345,125	65,693,707.00
1886......	270,346	95,437	365,783	64,584,270 00
1887......	306,298	99,709	406,007	74 815 486 85
1888......	343,701	108,857	452,557	79 646,146.37
1889......	351,284	173,241	489,725	88,275,113.28
1890......	*415,654*	*122,290*	537,944	106 493,890.19
Total..	....	....	....	$1,158,712,303.38

Wars of the United States.

STATEMENT OF THE NUMBER OF UNITED STATES TROOPS ENGAGED

WARS.	DATE.		TROOPS ENGAGED.		
	From—	To—	Regulars.	Militia and Volunteers.	Total.
War of the Revolution......	April 19, 1775	April 11, 1783	130,711	58,750	......
Estimated additional.. ...	....	... .	....	105,330	309,791
Northwestern Indian wars...	Sept. 19, 1790	Aug. 3, 1795	....	....	8,983
War with France...........	July 9, 1798	Sept. 30, 1800	....	....	*4,593
War with Tripoli...........	June 10, 1801	June 4, 1805	....	....	*3,339
Northwestern Indian war; General Harrison.........	Sept. 11, 1811	Nov. 11, 1811	250	660	910
Creek Indian war..........	July 27, 1813	Aug. 9, 1814	600	13,181	13,781
War of 1812 with Great Britain.................	June 18, 1812	Feb. 17, 1815	85,000	471,622	576,622
Seminole Indian war........	Nov. 20, 1817	Oct. 21, 1818	1,000	6,911	7,911
Black Hawk Indian war.....	April 21, 1831	Sept. 31, 1832	1,339	5,126	6,465
Cherokee disturbance or removal................	1836	1837	....	9,494	9,494

WARS OF THE UNITED STATES—CONTINUED.

WARS	DATE.		TROOPS ENGAGED.		
	From—	To—	Regulars.	Militia and Volunteers.	Total.
Creek Indian war or disturbance	May 5, 1836	Sept. 30, 1837	935	12,483	13,483
Florida Indian war	Dec. 23, 1835	Aug. 14, 1843	11,169	29,953	41,000
Aroostook disturbance	1838	1839	......	1,500	1,500
War with Mexico	April 24, 1846	July 4, 1848	30,954	73,776	112,230
Apache, Navajo, and Utah war	1849	1855	1,500	1,061	2,561
Comanche Indian war	1854	1854	......	503	503
Seminole Indian war	1856	1858	....	2,687	2,687
Civil war	1861	1865	....	....	2,859,132

*Naval forces engaged. The number of troops on the Confederate side during the Civil War was about 600,000.

The number of casualties in the volunteer and regular armies of the United States, during the war of 1861–65, was reported by the Provost-Marshal General in 1866:

WARS OF THE UNITED STATES—CONTINUED.

Killed in battle, 61,362; died of wounds, 34,727; died of disease, 183,287; total died, 279,376; total deserted, 199,105.

Number of soldiers in the Confederate service, who died of wounds or disease (partial statement), 133,821. Deserted (partial statement), 104,428.

Number of United States troops captured during the war, 212,608; Confederate troops captured, 476,169.

Number of United States troops paroled on the field, 16,431; Confederate troops paroled on the field, 248,599.

Number of United States troops who died while prisoners, 29,725; Confederate troops who died while prisoners, 26,774.

The casualties on the American side in the last war with Great Britain, 1812–15, were: Killed, 1,877; wounded, 3,737; total, 5,614.

The casualties on the American side in the war with Mexico, 1846–48, were: Killed, 1,049; died of wounds, 904; wounded, 3,420.

The estimated cost to the United States of the Revolutionary War was $135,193,703; of the war of 1812 with Great Britain, $107,159,003; of the Mexican War, $100,000,000; of the Civil War (including all expenses growing out of the war), $6,189,929,909.

The height of the railway bridge at Niagara river, above the river, is 250 feet.

The largest diamond-cutting house is the Amsterdam, where they employ 400 men. The famous Kohinoor diamond was cut there. The cutters make from $7 to $12 and even $14 a day.

Trinity Church, New York, is 283 feet in height.

Myriads of ages have elapsed while the rushing waters have been cutting out those tremendous ravines in the hard rock, known as the Canyons of Mexico, Texas, Colorado, and the Rocky Mountains. The great Canyon of the Colorado river is 298 miles long, and the sides rise perpendicularly above the water to a height of 5,000 or 6,000 feet.

There is a good deal of amusement in the following magical table of figures. It will enable you to tell how old the young ladies are. Just hand this table to a young lady, and request her to tell you in which column or columns her age is contained, and add together the figures at the top of the columns in which her age is found, and you have the great secret. Thus, suppose her age is 17, you will find that number in the first and fifth columns; add the first figures of these two columns.

Here is the magic table:

1	2	4	8	16	32
3	3	5	9	17	33
5	6	6	10	18	34
7	7	7	11	19	35
9	10	12	12	20	36
11	11	13	13	21	37
13	14	14	14	22	38
15	15	15	15	23	39
17	18	20	24	24	40
19	19	21	25	25	41
21	22	22	26	26	42
23	23	23	27	27	43
25	26	28	28	28	44
27	27	29	29	29	45
29	30	30	30	30	46
31	31	31	31	31	47
33	34	36	40	48	48
35	35	37	41	49	49
37	38	38	42	50	50
39	39	39	43	51	51
41	42	44	44	52	52
43	43	45	45	53	53
45	46	46	46	54	54
47	47	47	47	55	55
49	50	52	56	56	56
51	51	53	57	57	57
53	54	54	58	58	58
55	55	55	59	59	59
57	58	60	60	60	60
59	59	61	61	61	61
61	62	62	62	62	62
63	63	63	63	63	63

ANOTHER METHOD.—Girls of a marriageable age do not like to tell how old they are, but you can find out by following the subjoined instructions, the young lady doing the figuring. Tell her to put down the number of the month in which she was born; then *to multiply it* by two; then to add five then *to multiply it by 50; then* to add her age; then to subtract *365; then to add 115;* then tell her to tell you the amount she *has left. The two figures* to the right will denote her age, and *the remainder* the month of her birth. For example the *amount is 822, she is* twenty two years old, and was born in *the eight month (August).* Try it.

STEEL AND BRASS PLATES.

Weight of steel and brass plates per sq. foot by American gauge.

No. of gauge.	Steel, pounds.	Brass, pounds.	No. of gauge.	Steel, pounds.	Brass, pounds.
1	10.993	12.382	18	1.531	1.725
2	9.789	11.027	19	1.363	1.536
3	8.718	9.819	20	1.214	1.367
4	7.763	8.744	21	1.081	1.218
5	6.913	7.787	22	.9631	1.084
6	6.156	6.934	23	.857	.966
7	5.482	6.175	24	.763	.860
8	4.882	5.499	25	.680	.766
9	4.348	4.897	26	.605	.682
10	3.871	4.360	27	.539	.607
11	3.448	3.883	28	.480	.541
12	3.070	3.458	29	.427	.481
13	2.734	3.079	30	.380	.429
14	2.435	2.742	31	.339	.382
15	2.168	2.442	32	.302	.340
16	1.931	2.175	33	.269	.303
17	1.719	1.937	34	.239	.269

RAILWAY SIGNALS.

One whistle signifies "down brakes."

Two whistles signify "off brakes."

Three whistles signify "back up."

Continued whistles signify "danger."

Rapid short whistles "a cattle alarm."

A sweeping parting of the hands on a level with the eyes, signifies "go ahead."

Downward motion of the hands with extended arms signifies "stop."

Beckoning motion of one hand, signifies "back."

Red flag waved up the track, signifies "danger."

Red flag stuck up by the roadside, signifies "danger ahead."

Red flag carried on a locomotive, signifies "an engine following."

Red flag hoisted at a station is a signal to "stop."

Lanterns at night raised and lowered vertically, is a signal "to start."

Lanterns swung at right angles across the track, means "*stop.*"

Lanterns swung in a circle, signifies "back the train."

COST OF SMALL QUANTITIES OF HAY.

PRICE PER TON.	25 lbs. worth.	40 lbs. worth.	100 lbs. worth.	200 lbs. worth.	300 lbs. worth.
$ 4 00..	5 cts.	10 cts.	20 cts.	$ 40	$ 60
5 00..	6 "	12 "	25 "	50	75
6 00..	7½ "	15 "	30 "	60	90
7 00..	8½ "	17 "	35 "	70	1 05
8 00..	10 "	20 "	40 "	80	1 20
9 00..	11 "	22 "	45 "	90	1 35
10 00..	12½ "	25 "	50 "	1 00	1 50
11 00..	13½ "	27 "	55 "	1 19	1 65
12.00..	15 "	30 "	60 "	1 20	1 80
13 00..	16 "	32 "	65 "	1 30	1 95
14 00..	17½ "	35 "	70 "	1 40	2 10
15 00..	18½ "	37 "	75 "	1 50	2 25

AMOUNT OF OIL IN SEEDS.

Kind of Seed.	Per cent. Oil.	Kind of Seed.	Per cent. Oil.
Bitter Almond	55	Oats	6½
Barley	2½	Rapeseed	55
Clover hay	5	Sweet Almond	47
Hemp seed	19	Turnip seed	45
Indian corn	7	White mustard	37
Linseed	17	Wheat bran	4
Meadow hay	3½	Wheat-straw	3
Oat-straw	4	Wheat flour	3

RELATIVE VALUE OF DIFFERENT FOODS FOR STOCK.

One hundred pounds of good hay for stock are equal to:

Articles.	Pounds.	Articles.	Pounds.
Beans	28	Oats	59
Beets	669	Oil-cake, linseed	43
Clover, red, green	373	Peas, dry	37½
Carrots	371	Potatoes	350
Corn	62	Rye-straw	429
Clover, red, dry	88	Rye	53½
Lucerne	89	Turnips	469
Mangolds	368½	Wheat	44½
Oat-straw	317		

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5 00..	6 "	12 "	25 "	50	75
6 00..	7½ "	15 "	30 "	60	90
7 00..	8½ "	17 "	35 "	70	1 05
8 00..	10 "	20 "	40 "	80	1 20
9 00..	11 "	22 "	45 "	90	1 35
10 00..	12½ "	25 "	50 "	1 00	1 50
11 00..	13½ "	27 "	55 "	1 19	1 65
12.00..	15 "	30 "	60 "	1 20	1 80
13 00..	16 "	32 "	65 "	1 30	1 95
14 00..	17½ "	35 "	70 "	1 40	2 10
15 00..	18½ "	37 "	75 "	1 50	2 25

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Kind of Seed.	Per cent. Oil.	Kind of Seed.	Per cent. Oil.
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Quantity of Seed Required to Plant an Acre.

16	quarts	Asparagus in 12 inch drills.
20	“	Beans, pole, Lima, 4 by 4 feet.
10	“	Beans, Carolina, prolific, etc., 4 by 3 feet
10	“	Corn, sugar.
8	“	Corn, field.
3	“	Cucumber, in hills.
20	“	Flax, broadcast.
6	“	Grass, timothy with clover.
10	“	Grass, timothy without clover.
25	“	Grass, orchard.
20	“	Grass, red top or heads.
28	“	Grass, blue.
20	“	Grass, rye.
2	“	Pumpkin, in hills 8 by 8 feet.
8,000		Asparagus plants, 4 by 1½ feet.
25,000		Celery plants, 4 by ½ feet.
17,500		Pepper plants, 2½ by 1 foot.
3,800		Tomato plants.
2½	bushels	Barley.
1½	“	Beans, bush, in drills 2½ feet.
2	“	Peas, in drills, short varieties
1 to 1½	“	Peas, in drills, tall varieties.
3	“	Peas, broadcast.
8	“	Potatoes.
1¾	“	Rye, broadcast.
1½	“	Rye, drilled.
1¼	“	Wheat, in drills.
2	“	Wheat, broadcast.
12	ounces	Cabbage, outside, for transplanting.
4	“	Cabbage, sown in frames.
8	“	Celery, seed.
3	“	Tomatoes, in frames.
8	“	Tomatoes, seed in hills 3 by 3 feet.
9	pounds	Beets and mangold, drills, 2½ feet.
12	“	Broom corn in drills.
4	“	Carrot, in drills, 2½ feet.
3	“	Clover, white Dutch.
10	“	Clover, Lucerne.
6	“	Clover, Alsike.
12	“	Clover, large red with timothy.
16	“	Clover, large red without timothy

25	"	Corn, salad, drill 10 inches.
3	"	Lettuce, in rows 2½ feet.
35	"	Lawn grass.
3	"	Melons, water, in hills 8 by 8 feet.
2	"	Melons, citrons, in hills 4 by 4 feet.
50	"	Onions, in beds for sets.
7	"	Onions, in rows for large bulbs.
5	"	Parsnip, in drills 2½ feet.
4	"	Parsley, in drills 2 feet.
10	"	Radish, in drills 2 feet.
3	"	Squash, bush, in hills 4 by 4 feet.
3	"	Turnips, in drills 2 feet.
3	"	Turnips, broadcast.

The Longest Rivers in the World.

Miles.

233—Thames.
300—Kenebec.
350—Hudson.
400—Delaware.
450—Connecticut.
500—James.
500—Potomac.
500—Susquehanna.
600—Alabama.
600—Cumberland.
700—Red River of the North.
800—Tennessee.
900—Kansas.
950—Rhine.
950—Ohio.
1,000—Yellowstone.
1,100—Colorada, in California.
1,200—Red River.
1,200—Nebraska.
1,200—Columbia.
1,300—San Francisco.
1,600—Danube.
1,800—Rio Grande.
2,000—Volga.
2,000—Arkansas.

2,000—Maderia.
2,200—St. Lawrence.
2,500—Obe.
2,600—Niger, or Jobila.
2,600—Lena.
2,800—Mississippi, proper.
4,100—Missouri, to the sea, forming longest in world.
2,900—Missouri, to its junction with Mississippi.
3,600—Amazon.
3,000—Nile.

GOVERNORS' SALARIES, TERMS OF OFFICE AND STATE CAPITALS.

Term of Office.	*States and Territories.*	*Capitals.*	*Yearly Salaries.*
One year...	Massachusetts..	Boston..........	$ 4,000
One year...	Rhode Island...	Newport........	1,000
Two years.	Alabama..........	Montgomery..	3,000
Two years.	Arkansas.........	Little Rock....	3,500
Two years.	Colorado.........	Denver..........	5,000
Two years.	Connecticut...,.	Hartford........	2,000
Two years.	Georgia	Atlanta.........	3,000
Two years.	Iowa...............	Des Moines...	4,000
Two years.	Kansas............	Topeka.........	3,000
Two years.	Maine.............	Augusta.......	2,000
Two years.	Michigan........	Lansing........	1,000
Two years.	Minnesota.......	St. Paul.........	3,800
Two years.	Nebraska........	Lincoln.........	2,500
Two years.	N. Hampshire..	Concord.........	1,000
Two years.	Ohio...............	Columbus......	4,000
Two years.	South Carolina	Columbia	3,500
Two years.	Tennessee.......	Nashville	4,000
Two years.	Texas.........	Austin...........	4,000
Two years.	Vermont.........	Montpelier....	1,000
Two years.	Wisconsin	Madison.......	5,000
Three years	New Jersey......	Trenton..........	5,000
Three years	New York......	Albany..........	10,000
Four years.	Arizona Ter....	Phoenix........	2,600
Four years.	California	Sacramento.....	6,000
Two years.	North Dakota.	Bismarck........	3,000
Two years.	South Dakota.	Pierre............	2,800
Four years.	Delaware........	Dover..........	2,000

Four years...	Florida.........	Tallahassee...	3,500
Four years...	Idaho............	Boise City.....	2,600
Four years...	Illinois.........	Springfield....	6,000
Four years...	Indiana.........	Indianapolis..	5,000
Four years...	Indian Ter'ty	Tahlequah....	2,600
Four years...	Kentucky......	Frankfort	5,000
Four years...	Louisiana......	Baton Rouge.	4,000
Four years...	Maryland......	Annapolis.....	4,500
Four years...	Mississippi....	Jackson........	4,000
Four years...	Missouri........	Jefferson City	5,000
Four years...	Montana.......	Helena.........	5,000
Four years...	Nevada.........	Carson City...	6,000
Fonr years...	N. Mexico Ter	Santa Fe......	2,600
Four years...	N. Carolina...	Raleigh........	4,000
Four years...	Oregon	Salem..........	1,500
Four years...	Pennsylvania.	Harrisburg...	10.000
Four years...	Utah Territory	Salt Lake.....	2,600
Four years...	Virginia.........	Richmond....	5,000
Four years...	Washington...	Olympia......	4,000
Four years...	West Virginia.	Charleston...	2,700
Four years...	Wyoming	Cheyenne....	2,600
Four years...	Oklahoma Ter.	Guthrie.......	2,600

VALUE OF A TON OF GOLD OR SILVER.

A ton of pure gold is worth $602,799.21.
$1,000,000 gold coin weighs 3,685,8 pounds.
A ton of silver is worth $37,704.84.
$1,000,000 silver coin weighs 58,929.9 pounds,

CURIOSITIES OF THE BIBLE.

The Bible contains 3,566.480 letters, 773,746 words, 31,173 verses, 1,189 chapters and 66 books. The word AND occurs 46,277 times. The word LORD occurs 1,855 times. The word REVEREND occurs but once, which is in the 9th verse of the 111th Psalm. The middle verse is the 8th verse of the 118th Psalm. The 21st verse of the 7th chapter of Ezra contains all the letters of the alphabet, *except the letter J.* The longest verse is the 9th *verse of the 8th* chapter of Esther. The shortest *verse is the 35th* verse of the 11th chapter of St. John *There are* no words or names more than six syllabl

FICTITIOUS NAMES OF STATES.

Wisconsin—Badger State.
Massachusetts—Bay State.
Mississippi—Bayou State.
Arkansas—Bear State.
Louisiana—Creole State.
Delaware—Diamond State.
New York—Empire State.
New York—Excelsior State.
Connecticut—Freestone State.
New Hampshire—Granite State.
Vermont—Green Mountain State.
Iowa—Hawkeye State.
Indiana—Hoosier State.
Pennsylvania—Keystone State.
Michigan—Lake State.
Texas—Lone Star State.
Maine—Lumber State.
Virginia—Mother of Presidents.
Virginia—Mother of States.
Connecticut—Nutmeg State.
Massachusetts—Old Colony.
Virginia—Old Dominion.
North Carolina—Old North State.
South Carolina—Palmetto State.
Florida—Peninsular State.
Maine—Pine Tree State.
Illinois—Prairie State.
North Carolina—Turpentine State.

FICTITIOUS NAMES OF CITIES.

Aberdeen, Scotland, Granite City.
Alexandria, Egypt, Delta City.
Alton, Ill., Tusselburgh.
Akron, O., Summit City.
Baltimore, Md., Monumental City.
Birmingham, O., Bran Town.
Boston, Mass., Puritan City; Modern Athens; Hub of the Universe; City of Notions; Athens of America; The Hub.
Brooklyn, N. Y., City of Churches.
Buffalo, N. Y., Queen City of the Lakes.
Cairo, Egypt, City of Victory.
Cincinnati, O., Queen City; Porkopolis: Queen of the West; Paris of America.
Chicago, Ill., Garden City.
Cleveland, O., Forest City.

Dayton, O., Gem City of Ohio.
Detroit, Mich.. City of the Straits.
Duluth, Minn., Zenith City
Edinburgh, Scotland, Maiden Town; Northen Athens; Modern Athens; Athens of the North.
Gibraltar, Key of the Mediterranean.
Hannibal, Mo., Bluff City.
Havana, Cuba, Pearl of the Antilles.
Holyoke, Mass., Paper City.
Indianapolis, Ind., Railroad City.
Jerusalem, Palestine, City of Peace; City of the Great King.
Kansas City, Mo., Mushroomopolis.
Keokuk, Ia., Gate City.
Lafayette, Ind., Star City.
Limerick, Ireland, City of the Violated Treaty.
Lowell, Mass., City of Spindles; Manchester of America.
London, England, City of Masts; Modern Babylon.
Louisville, Ky., Falls City.
Madison, Wis., Lake City.
Milan, Italy, Little Paris.
Milwaukee, Wis., Cream City.
Minneapolis, Minn., City of Flour.
Nashville, Tenn., City of Rocks.
New Haven, Conn., City of Elms.
New Orleans, La., Crescent City.
New York, Gotham; Empire City; Metropolitan City.
Pekin, Ill., Celestial City.
Philadelphia, Pa., Quaker City; City of Brotherly Love; City of Homes.
Pittsburg, Pa., Iron City; Smoky City; Birmingham of America.
Portland, Me., Forest City.
Paterson, N. Y., Lyons of America.
Peoria, Ill., Whisky Town.
Quebec, Canada, Gibraltar of America.
Quincy, Ill., Gem City.
Racine, Wis., Belle City.
Rome, Italy, Eternal City; Nameless City; Queen of Cities; Seven-Hilled City; Mistress of the World.
Rochester, N. Y., Flour City
St. Louis, Mo., Mound City.
St. Paul, Minn., Gem City.
San Francisco, Cal., Golden City.
Salem, Mass., City of Peace.
Salt Lake City, City of the Saints.
Springfield, Ill., Flower City.
Streator, Ill., City of the Woods.
Toledo, O., Corn City.
Venice, Italy, Bride of the Sea.
Washington, D. C., City of Magnificent Distances.
Winnipeg, Manitoba, Gate City of the Northwest.

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FORMULÆ FOR WOOD SCREWS.

N = number.

D = diameter.

$$D = (N \times .01325) + .056.$$

$$N = \frac{D - .056}{.01325}.$$

Diameter and Number of Wood Screws.

No.	Diameter.	No.	Diameter.
0	.056	16	.268
1	.069	17	.281
2	.082	18	.293
3	.096	19	.308
4	.109	20	.321
5	.122	21	.334
6	.135	22	.347
7	.149	23	.361
8	.162	24	.374
9	.175	25	.387
10	.188	26	.401
11	.201	27	.414
12	.215	28	.427
13	.228	29	.440
14	.241	30	.453
15	.255		

MELTING POINT OF METALS.

Platinum	3080°	Fahr.	(Pouillet).
Wrought iron	2822	"	"
Steel	2462	"	"
Cast iron (Gray)	2210	"	"
Gold	2192	"	"
Silver	1832	"	"
Antimony	842	"	(I. Lowthian Bell).
Zinc	782	"	"
Lead	620	"	"
Tin	475	"	"

WEIGHT OF GRINDSTONES.

Rule.—Square the diameter (in inches); multiply by thickness *(in inches); then by the* decimal .06363; the product will be the *weight of the stone* in pounds.

ALLOYS.

ALLOYS.	Tin.	Copper.	Zinc.	Antimony.	Lead.	Bismuth.
Brass, engine bearings	13	112	¼	....	....	....
Tough brass, engine work	15	100	15	....	....	....
" for heavy bearings	25	160	5	....	....	....
Yellow brass, for turning	....	2	1	....	....	....
Flanges to stand brazing	....	32	1	....	1	....
Bell-metal	5	16	....	....	....	....
Babbitt's metal	10	1	....	1	....	....
Brass, locomotive bearings	7	64	1	....	....	....
" for straps and glands	16	130	1	....	....	....
Muntz's sheathing	....	6	4	....	....	....
Metal to expand in cooling	....	....	....	2	9	1
Pewter	100	....	....	17	....	....
Spelter	....	1	1	....	....	....
Statuary bronze	2	90	5	....	2	....
Type-metal, from	....	....	....	1	3	....
" to	....	....	....	1	7	....
SOLDERS.						
For lead	1	....	....	....	1½	....
" tin	1	....	....	....	2	....
" pewter	2	....	....	....	1	....
" brazing (hardest)	....	3	1	....	....	....
" " (hard)	....	1	1	....	....	....
" " (soft)	1	4	3	....	....	....
" " " or	2	....	....	1	....	....

SURE CURE FOR SMALL-POX AND SCARLET FEVER.

The following small-pox remedy was given to the public by a correspondent of the Stockton (Cal.) *Herald*, who says: "I herewith append a recipe which has been used, to my knowledge, in hundreds of cases. It will prevent or cure small-pox, though the pittings are filling. It will also cure scarlet fever. Here is the recipe as I have used it to cure small-pox. When learned physicians said the patient must die, it cured: Sulphate of zinc, one grain; foxglove (digitalis), one grain; half a teaspoonful of sugar. Mix *with two tablespoonfuls* of water. When thoroughly mixed, *add four ounces of water*. Take a teaspoonful every hour. Either *disease will disappear in* twelve hours. For a child, smaller dose *according to its age.* If countries would compel physicians to *use this, there would* be no need of pest-houses. If you value *advice and experience*, use this for that terrible disease."

DIFFERENT COLORS OF IRON CAUSED BY HEAT.

Deg. Cen.	Deg. Fah.	
261	502	Violet, Purple and Dull Blue. Between 261° C to 370° C it passes to Bright Blue, Sea Green, and then disappears.
370	680	
500	932	Commences to be covered with a light coating of oxide; becomes a deal more impressible to the hammer, and can be twisted with ease.
525	977	Becomes Nascent Red.
700	1292	Somber Red.
800	1472	Nascent Cherry.
900	1657	Cherry.
1000	1832	Bright Cherry.
1100	2012	Dull Orange.
1200	2192	Bright Orange.
1300	2372	White.
1400	2552	Brilliant White-welding heat.
1500	2732	Dazzling white.
1600	2912	

STANDARD SCREW THREADS.

Diam. of Screw.	Thread per Inch.	Diam. at root of Thread.	Diam. of Screw.	Thread per Inch.	Diam. at root of Thread.
¼	20	.185	2	4½	1.712
5-16	18	.240	2¼	4½	1.962
⅜	16	.294	2½	4	2.175
7-16	14	.344	2¾	4	2.425
½	13	.400	3	3½	2.628
9-16	12	.454	3¼	3½	2.878
⅝	11	.507	3½	3¼	3.100
¾	10	.620	3¾	3	3.317
⅞	9	.731	4	3	3.566
1	8	.837	4¼	2⅞	3.825
1⅛	7	.940	4½	2¾	4.027
1¼	7	1.065	4¾	2⅝	4.255
1⅜	6	1.160	5	2½	4.480
1½	6	1.284	5¼	2½	4.730
1⅝	5½	1.389	5½	2⅜	5.053
1¾	5	1.490	5¾	2⅜	5.203
1⅞	5	1.615	6	2¼	5.42

Angle of Thread 60°.
Flat at top and bottom ⅛ of pitch.

COPARTNERSHIPS.

Partnerships may be either general or special. In general partnerships, money invested ceases to be individual property. Each member is made personally liable for the whole amount of debts incurred by the company. The company is liable for all contracts or obligations made by individual members.

. Special partners are not liable beyond the amount contributed.

A person may become a partner by allowing people generally to presume that he is one, as, by having his name on the sign or parcel, or in the bills used in the business.

A share or specific interest in the profits or loss of a business, as remuneration for labor, may involve one in the liability of a partner.

In case of Bankruptcy, the joint estate is first applied to the payment of partnership debts, the surplus only going to the creditors of the individual estate.

A dissolution of partnership may take place under express stipulations in the articles of agreement, by mutual consent, by the death or insanity of one of the firm, by award of arbitrators, or by court of equity in cases of misconduct of some member of the firm.

A partner signing his individual name to negotiable paper, which is for the use of the partnership firm, binds all the partners thereby. Negotiable paper of the firm, even though given on private account by one of the partners, will hold all the partners of the firm, when it passes into the hands of the holders, who are ignorant of the fact attending its creation.

Partnership effects may be bought and sold by a partner; he may make contracts; may receive money; indorse, draw and accept bills and notes, and, while this may be for his own private account, if it apparently be for the use of the firm, his partners will be bound by his action, provided the parties dealing with him were ignorant of the transaction being on his private account; and thus representation or misrepresentation of a partner, having relation to business of the firm, will bind the members in the partnership.

In case of death, *the surviving* partner must account to the *representatives of the* deceased.

Rule to Calculate the Horse-Power in an Engine.

This rule will prove correct for all ordinary engines; but there may be a very slight variation in the case of an extra long or extra short stroke.

RULE.—Multiply the diameter of the cylinder in inches by itself —in other words, square the diameter in inches and divide by four.

Size of Lakes, Seas and Oceans.

LAKES.	Miles Long.	Miles Wide.
Cayuga	36	4
George	36	3
Constance	45	10
Geneva	50	10
Lake of the Woods	70	25
Champlain	123	12
Ladoga	125	75
Maracaybo	150	60
Great Bear	150	40
Ontario	180	40
Athabasca	200	20
Winnipeg	240	40
Huron	250	90
Erie	270	50
Great Slave	300	45
Michigan	330	60
Baikal	360	35
Superior	380	120

SEAS.	Miles Long.
Aral	250
Baltic	600
Black	932
Caribbean	1,800
China	1,700
Caspian	640
Japan	1,000
Mediterranean	2,000
Okhotsk	600
Red	1,400
White	450

OCEANS.	Miles Square.
Arctic	5,000,000
Southern	10,000,000
Indian	20,000,000
Atlantic	40,000,000
Pacific	80,000,000

Carrying Capacity of a Ten Ton Freight Car.

Flour	90 barrels.
Lime	70 "
Salt	70 "
Whisky	60 "
Flour	200 sacks.
Eggs	130 to 160 barrels.
Wood	6 cords.
Sheep	80 to 100 head.
Hogs	50 to 60 "
Cattle	18 to 20 "

Butter	20,000 pounds.
Lumber	6,000 feet.
Wheat	340 bushels.
Barley	300 "
Apples	370 "
Corn	400 "
Potatoes	430 "
Bran	1,000 "
Oats	680 "
Flax Seed	360 "

The Greatest Battles in History.

The Battle of Actium, B. C. 31, in which the combined fleets of Antony and Cleopatra were defeated by Octavius, and imperialism established in the person of Octavius.

The Battle of Arbela, B. C. 331, in which the Persians, under Tarius, were defeated by the Macedonians and Greeks under Alexander the Great.

The Battle of Marathon, B. C. 490, in which the Athenians, under Mietiades, defeated the Persians, under Datis.

The Battle of Syracuse, B. C. 413, in which the Athenians were defeated by the Syracusans and their allies.

The Battle of Metaurus, B. C. 207, in which the Carthagenians, under Hasdrubul, were defeated by the Romans, under the Consuls, Caius, Claudius, Nero and Marcus Livius.

The Battle of Philippi, B. C. 42, in which Brutus and Cassius were defeated by Octavius and Antony. The fate of the Republic was decided.

The Battle of Blenheim, A. D. 1704, in which the French and Bavarians, under Marshal Tallard, were defeated by the English and their allies, under Marlborough.

The Battle of Chalons, A. D. 451, in which the Huns, under Attila, called the "Scourge of God," were defeated by the confederate armies of Romans and Visigoths.

Battle of Hastings, A. D. 1066, in which Harold, commanding the English army, was defeated by William the Conquerer of Normandy.

The Battle of Lutzen, 1632, which decided the religious liberties of Germany. Gustavus Adolphus was killed.

The Battle of Pultowa, A. D. 1709, in which Charles XII. of Sweden, was defeated by the Russians, under Peter the Great.

The Battle of Tours, A. D. 732, in which the Saracens were defeated by Charles Martel. Christendom was rescued from Islam.

On the 21st of October, 1805, the Great Naval Battle of Trafalgar was fought. The English defeated the French and destroyed the hopes of Napoleon as to a successful invasion of England.

The Battle of Valmy, A. D. 1792, in which an invading army of Prussians, Austrians and Hessians, under the command of the Duke of Brunswick, were defeated by the French, under Dumouriez.

The Battle of Waterloo, 1815, in which the French, under Napoleon, were defeated by the allied armies of Russia, Austria, Prussia and England, under the Duke of Wellington.

A Woman's Chance to Marry.

¼ of 1 per cent., from 50 to 56 years of age.
⅜ of 1 per cent., from 45 to 50 years of age.
2½ per cent., from 40 to 45 years of age.
3¾ per cent., from 35 to 40 years of age.
15½ per cent., from 30 to 35 years of age.
18 per cent., from 25 to 30 years of age.
52 per cent., from 20 to 25 years of age.
14½ per cent., from 15 to 20 years of age.

SOME GOOD MAXIMS.

There is nothing better in heaven than religion.

Our actions of to-day are the thoughts of yesterday.

A truthful woman is the greatest adornment of a home.

If you live in impure thoughts you will be impure in your lives.

Profanity is more or less a profession of your loyalty to the devil.

Nobody ever went to sleep indifferent to religion and waked up in heaven.

A child is loved by God because it has no opinions and wants to learn something.

Don't get into anybody's way with your naturalness, *but try to* be yourself wherever you go.

Run into heaven barefooted and bareheaded rather *than miss it* on account of anything in the world.

How to Preserve Eggs.

To each pailful of water, add two pints of fresh slacked lime and one pint of common salt; mix well Fill your barrel half full with this fluid, put your eggs down in it any time after June, and they will keep two years if desired

Facts Worth Knowing.

There are 2,754 languages.

America was discovered in 1492.

A square mile contains 640 acres.

Envelopes were first used in 1839.

Telescopes were invented in 1590.

A barrel of rice weighs 600 pounds.

A barrel of flour weighs 196 pounds.

A barrel of pork weighs 200 pounds.

A firkin of butter weighs 56 pounds.

The first steel pen was made in 1830.

A span is ten and seven-eighth inches.

A hand (horse measure) is four inches.

Watches were first constructed in 1476.

The first iron steamship was built in 1830.

The first lucifer match was made in 1829.

Gold was discovered in California in 1848.

The first horse railroad was built in 1826–7.

The average human life is thirty-one years.

Coaches were first used in England in 1569.

Modern needles first came into use in 1545.

Space has a temperature of 200 degrees below zero.

Kerosene was first used for lighting purposes in 1826.

The first newspaper was published in England in 1588.

The first newspaper advertisement appeared in 1652.

Robert Bonner refused $100,000.00 for the famous trotter Maud S.

Until 1776 cotton-spinning was performed by the hand-spinning wheel.

Measure 209 feet on each side and you will have a square acre within an inch.

The first sewing machine was patented by Elias Howe, Jr., in 1846.

The first steam engine on this continent was brought from England in 1753.

The first knives were used in England, and the first wheeled carriages in France in 1559.

The national colors of the United States were adopted by Congress in 1777

The cost of coal burned by an ocean steamer on a trip will average $13,000.

The sun is 92,500,000 miles from the earth. The latter receives *only one two-billionth* of the solar heat.

The nearest fixed star is 16,000,000,000 miles distant, and takes three *years for light* to reach the earth.

SOCIAL STATISTICS OF CITIES.

Area, population, streets and cost of repairs. Census of 1890.

CITIES.	Area—Square miles.	Population.	LENGTH OF STREETS IN MILES.			Average width of streets—feet.	Per cent of streets paved.	Proportionate width of sidewalks to Sts.	Miles of streets to each sq. mile of area.	Per cent of street area to city area.	Number of population to each mile of streets.	FINANCIAL.	
			Total.	Paved.	Graded and curbed only							Average yearly cost of construction and repairs.	Average yearly cost of street-cleaning.
New York	39.57	1,513,501	575	358	45	60	62	25	14.5	17	2,632	$1,024,161	$1,075,200
Chicago	160.57	1,098,576	....	....	....	....	....	....	....	....	....	....	....
Philadelphia	77.65	1,046,252	1,151	750	50	50	65	25	14.9	14	909	637,550	283,909
Brooklyn	19.22	804,377	653	376	3	70	57	25	34.0	87	1,232	393,945	165,165
St. Louis	48.32	460,357	1,061	422	40	60	40	20	21.9	25	434	837,304	126,804
Boston	35.28	446,507	408	408	....	40	100	17	11.6	9	1,094	825,000	136,673
Baltimore	18.33	433,547	780	459	100	66	59	20	42.6	53	556	120,000	110,000
San Francisco	15.46	297,990	342	92	190	69	27	20	22.1	29	871	958,743	58,437
Cincinnati	25.00	296,309	486	254	....	50	52	20	19.4	14	610	855,000	185,000
Cleveland	24.88	261,546	....	....	....	....	....	....	....	....	....	....	....
Buffalo	39.04	254,457	372	194	....	58	52	40	10.0	40	684	573,244	13,000
New Orleans	37.09	241,995	625	89	261	60	14	20	16.8	19	387	35,000	250,000
Pittsburg	6.08	238,473	....	....	....	....	....	....	....	....	....	....	....
Washington	....	229,296	....	....	....	....	....	....	....	....	....	....	....
Detroit	20.59	205,669	400	147	....	57	37	50	19.4	21	514	334,617	....
Milwaukee	17.00	204,150	419	72	6	75	17	20	24.6	35	487	468,077	....
Newark	17.77	181,515	186	48	138	60	26	8	10.5	12	976	20,000	30,000
Minneapolis	51.07	164,738	800	25	4	80	3	33	15.5	23	206	200,000	....

Omaha	24.50	139,526	508	52	41	66	10	20	20.7	26	275	683,565	22,000
Rochester	15.60	138,327	240	72	72	50	30	....	15.4	15	576	141,803	20,611
St. Paul	51.42	133,156	970	40	325	60	4	17	19.0	21	137	757,902	37,584
Indianapolis	10.07	107,445	400	234	16	75	59	17	39.7	56	269	275,000	50,000
New Haven	13.97	85,981	140	32	....	60	23	20	10.0	11	614	136,416	4,500
Worcester	33.60	84,536	195	195	....	50	100	33	5.8	6	434	140,011	7,000
Toledo	19.72	82,652	438	60	220	66	14	20	22.2	28	189	327,902	8,137
Lowell	11.15	77,605	105	19	1	50	18	19	9.4	9	739	98,712	....
Nashville	8.44	76,309	251	147	....	50	59	33	29.7	28	304	130,000	....
Fall River	10.95	74,351	106	2	79	50	2	9	9.7	9	701	66,500	....
Cambridge	5.83	69,837	79	23	....	50	29	17	13.7	12	884	45,000	25,000
Trenton	3.95	58,488	100	7	50	60	7	20	25.3	28	585	10,000	1,800
Camden	4.34	58,274	100	31	20	60	31	25	23.0	25	583	22,000	11,000
Lynn	10.64	55,684	125	82	30	50	66	17	11.7	11	445	40,000	10,000
Hartford	14.66	53,182	130	80	50	70	62	13	8.9	11	409	46,783	5,633
Evansville	4.42	50,674	136	33	52	70	24	33	30.8	41	373	33,713	76,806
Los Angeles	27.00	50,394	800	83	76	60	10	17	28.9	33	63	....	....
Lawrence (Mass.)	6.67	44,559	82	75	....	50	91	17	12.3	12	543	33,209	3,0.0
Hoboken	1.47	43,561	30	17	3	58	57	25	20.4	22	1,452	20,000	2,000
Dallas	7.68	38,140	529	25	66	60	5	10	69.0	78	72	18,000	....
Sioux City	30.90	37,862	340	14	75	80	4	17	11.0	17	111	758,157	6,000
Portland, Me.	2.51	36,608	56	9	43	50	16	17	22.3	21	654	58,000	....
Holyoke	3.98	35,528	50	50	....	60	100	17	12.6	14	711	18,000	....
Binghamton	10.04	35,093	80	4	70	50	5	9	8.0	76	439	15,000	1,000
Duluth	3.23	32,725	224	35	20	66	16	25	69.3	87	146	496,642	5,000
Elmira	4.45	28,070	90	43	5	55	46	25	20.2	21	312	12,000	2,000
Joliet	.37	27,407	98	44	....	65	45	17	26.5	32	280	14,338	1,500
Canton	6.80	26,327	150	5	115	60	3	20	22.0	25	176	32,000	....
Taunton	13.65	25,389	200	170	20	40	85	14	14.7	11	127	36,000	....
Davenport	4.41	25,161	140	26	79	70	19	17	31.7	40	180	30,000	5,000
La Crosse	8.19	25,053	125	15	110	66	12	25	15.3	18	200	20,378	....
Newport, Ky.	1.20	24,938	30	27	3	66	90	40	25.0	31	831	15,000	4,000
kford	6.37	25,589	120	31	50	66	26	8	18.8	25	197	1,200	2,000

POPULATION OF THE UNITED STATES AT EACH CENSUS, FROM 1850 TO, AND INCLUDING, 1890.

STATES AND TERRITORIES.	1890.		1880.		1870.		1860.		1850.	
Alabama	17	1,513,017	17	1,262,505	16	996,992	13	964,201	12	771,623
Arkansas	24	1,128,179	25	802,525	26	484,471	25	435,450	26	209,897
California	22	1,208,130	24	864,694	24	560,247	26	379,994	29	92,597
Colorado	31	412,198	35	194 327	....	39,864	....	34,277	....	....
Connecticut	29	746,258	28	622,700	25	537,454	24	460,147	21	370,792
Delaware	40	168,493	37	146,608	34	125,015	32	112,216	30	91,532
Florida	32	391,422	34	269,493	33	187,748	31	140,424	31	87,445
Georgia	12	1,837,353	13	1,542,180	12	1,184,109	11	1,057,286	9	906,185
Idaho	42	84,385	....	....	....	....	....	....	....	....
Illinois	3	3,826,351	4	3,077,871	4	2,539,891	4	1,711,951	11	851,470
Indiana	8	2,192,404	6	1,978,301	6	1,680,637	6	1,350,428	7	988,416
Iowa	10	1,911,896	10	1,624,615	11	1,194,020	20	674,913	27	192,214
Kansas	19	1,427,096	20	996,096	29	364,399	33	107,206	....	....
Kentucky	11	1,858,635	8	1,648,690	8	1,321,011	9	1,155,684	8	982,405
Louisiana	25	1,118,587	22	939,946	21	726,915	17	708,002	18	517,762
Maine	30	661,086	27	648,936	23	626,915	22	628,279	16	583,169
Maryland	27	1,042,390	23	934,943	20	780,894	19	687,049	17	583,034
Massachusetts	6	2,238,943	7	1,783,085	7	1,457,351	7	1,231,066	6	994,514
Michigan	9	2,093,889	9	1,636,937	13	1,184,059	16	749,113	20	397.654
Minnesota	20	1,301,826	26	780,773	28	439,706	30	172,073	33	6,077
Mississippi	21	1,289,600	18	1,131,597	18	827,922	14	791,305	15	606,526
Missouri	5	2,679,184	5	2,168,380	5	1,721,295	8	1,182,012	13	682,044
Montana	41	132,159	....	....	....	....	....	....	....	....
Nebraska	26	1,058,910	30	452,402	35	122,993	35	28,841	....	....
Nevada	44	45,761	38	62,266	37	42,491	36	6,857	....	....
New Hampshire	33	376,530	31	346,991	31	318,300	27	326,073	22	317,976
New Jersey	18	1,444,933	19	1,131,116	17	906,096	21	672,035	19	489,555
New York	1	5,997,853	1	5,082,871	1	4,382,759	1	3,880 735	1	3,097,394
North Carolina	16	1,617 947	15	1,399,750	14	1,071,361	12	992,622	10	869,039
North Dakota	39	182,719	....	....	....	....	....	....	....	....

Ohio	4	3,672,316	3	3,198,062	3	2,665,260	3	2,339,511	3	1,980,329
Oregon	38	313,767	36	174,768	36	90,923	34	52,465	33	13,294
Pennsylvania	2	5,258,014	2	4,282,891	2	3,521,951	2	2,906,215	2	2,311,786
Rhode Island	35	345,506	33	276,531	32	217,353	29	174,620	28	147,545
South Carolina	23	1,151,149	21	995,577	22	705,606	18	703,708	14	668,507
South Dakota	37	328,808	....	....	....	....	....	....	....	....
Tennessee	13	1,767,518	12	1,542,359	9	1,258,520	10	1,109,801	5	1,002,717
Texas	7	2,235,523	11	1,591,749	19	818,579	23	604,215	25	212,592
Vermont	36	332,422	32	332,286	30	330,551	28	315,098	23	314,120
Virginia	15	1,655,980	14	1,512,565	10	1,225,163	5	1,596,318	4	1,421,661
Washington	34	349,390	....	....	....	....	...	....	....	....
West Virginia	28	762,794	29	618,457	27	442,014	....	....	....	....
Wisconsin	14	1,686,880	16	1,315,497	15	1,054,670	15	775,881	24	305,391
Wyoming	43	60,705	....	....	....	....	....	....	....	....
The States	...	61,908,906	....	49,371,340	....	38,155,505	....	31,218,021	....	23,067,262
Arizona	4	59,620	6	40,440	9	9,658	....	....	....	....
Dakota	....	....	3	135,177	8	14,181	6	4,837	....	....
District of Columbia	1	230,392	1	177,624	1	131,700	2	75,080	2	51,687
Idaho	....	....	8	32,610	7	14,999	...	....	....	....
Indian	....	....	....	....	....	....	....	....	....	....
Montana	....	....	7	39,159	6	20,595	....	....	....	....
New Mexico	3	153,593	4	119,565	2	91,874	1	93,516	1	61,547
Oklahoma	5	61,834	....	....	....	....	....	....	....	....
Utah	2	207,905	2	143,963	3	86,786	3	40,273	3	11,3 0
Washington	....	....	5	75,116	5	23,955	5	11.594	....	....
Wyoming	....	....	9	20,789	10	9,118	....	....	....	....
The Territories	....	713,344	....	784,443	....	402,866	...	225,300	....	124,614
The United States	....	62,622,250	...	50,155,783	....	38,558,371	...	31.443,321	....	23,191,876
Per cent of gain		24.8		30.08		22.65		35.11		35.83

NOTE.—The narrow column under each census year shows the order of the states and territories when arranged according to magnitude of population. Population of Alaska and Indian Territory not reported.

Total Number of Postoffices in the United States.

The number of postoffices of each class at the close of the fiscal year 30th of June, 1890, with comparisons, was:

CLASS.	1890.	1889.	1872.
First	102	97	....
Second	517	497	1,200
Third	2 119	2,090	....
Fourth	59,668	56,315	30,663
Total	62,401	58,999	31,863

The number of new offices established in 1890 was....................4,236

The number of new offices established in 1889 was....................2,770

POINTS OF LAW.

(*By a Supreme Court Lawyer.*)

The advice on matters in the follow pages has been acquired at a great expense, and is absolutely correct. It can be relied upon as such.

Lawyers' fees can be saved, and much annoyance and expense avoided by acting on the advice given here.*

NEGOTIABLE INSTRUMENTS.

Introduction.—The laws governing mercantile transactions, and particularly such as relate to negotiable instruments, are, in the main, of very ancient origin, and are derived for the most part from the well established usages of merchants, which have been adopted, sanctioned and *confirmed* by the courts, and in many instances redeclared by statute. These usages and customs constitute what is called, in the language of the books, the law-merchant.

Promissory Notes.—A note of hand, as it is called, is a written promise to pay to a person certain, his order, or bearer, at a specified time, a given sum of money. To render it negotiable, that is, so that it may be transferred by indorsement or delivery, it must be payable to "order" or "bearer," and unless these words appear it will not be negotiable. Further, the promise must be absolute and uncoupled with any condition, and the time of payment must be certain and not dependent upon any contingency, Again, the promise must be for a definite sum and must be payable in money. These are all of the essence of negotiability. Failing in any of the foregoing particulars, the note may still be good as a contract, but it will not be a negotiable instrument.

It may be written upon anything capable of receiving written characters, in any language susceptible of translation, and with any substance that will leave a permanent mark; hence a note written in pencil is just as valid as one written with ink. It need not be dated, for delivery gives it effect, although a date is customary and proper, and when no time is specified it is payable on demand. It need not be signed at the bottom, provided the name of the maker elsewhere appears and was written with intent to bind, as: "I, John Smith, promise," etc., but the better way is to subscribe the note.

The payee must be named or designated, unless the note is drawn to bearer, and if drawn to the maker's own order possesses no validity until he has indorsed it. A note payable to bearer is transferable by simple delivery and passes from hand to hand without anything further, and the same is true of a note payable to the payee's order after he has indorsed it. In such a case any holder may write over such indorsement an order to pay to himself. But if indorsed in full, that is to pay to some person certain, it can only be transferred by the subsequent indorsement of such designated person.

It is customary to write notes for "value received," *but this is not necessary,* for a negotiable note imports a *consideration, and, except* as between the parties, want of consideration cannot be shown if the note was negotiated in good faith and before maturity, while as between the parties consideration may always be disproved, even though expressed. The better practice, however, is to write them as expressing consideration.

One who places his name on the back of a note as an indorser thereby enters into an undertaking with his assignee, as well as others into whose hands the note may come, that he will pay it if the maker does not; but he may protect himself against the claims of subsequent indorsers by making his indorsement " without recourse." On the other hand, a party, by simply receiving and passing a note while under a blank indorsement, and without putting his name to it, assumes no responsibility in relation to it.

The holder or indorsee of a note has a right of action against every one whose name appears on the same, whether as maker or indorser, but it is his duty to present the note promptly at maturity and demand payment; if payment is refused, he should immediately notify the indorsers, and a failure so to do will, in most cases, discharge the indorser from liability. He should further use all reasonable means to compel payment by the maker before resorting to the indorsers, and the law only excuses him from this duty where at the time of maturity the maker is hopelessly insolvent and a suit against him would be unavailing.

Prior to maturity, any person who takes a note without notice of any defect, and pays therefor a valuable consideration, will be protected against any equities existing in favor of the maker; but one who takes it as a mere volunteer, paying no value therefor, or one who receives it after it has become due, even though in good faith, and for value, will take it subject to all its infirmities, and any defense that would have been availing as against the payee may be interposed as to them.

Due Bills are not distinguishable in general effect rom promissory notes, and are governed by the same rules and assignable in the same manner.

Certificates of Deposit are, in effect, promissory notes, and subject to the same rules and principle pplicable to that class of paper.

Warehouse Receipts are not technically negotiable, but stand in the place of the property itself; the delivery of the receipts has the same effect, in transferring the title to the property, as the delivery of the property itself. They are, however, frequently declared negotiable paper by statute.

Drafts.—The draft, or bill of exchange, is the oldest form of negotiable paper, and is said to have existed as early as the first century. Drafts are governed by the same general rules as notes, and all the remarks of the foregoing paragraphs concerning negotiability are equally applicable here.

It is the duty of the holder of a bill to present it for acceptance without delay, and if it is payable at sight, or at a certain time after sight, no right of action will accrue against any person until it has been so presented. If it be not accepted, when properly presented, or, if accepted, be not paid when due, the further duty devolves on the holder to have it regularly protested by a notary public. This is essential, however, only in case of foreign bills, and is not required for inland exchange or notes. Simple notice in the latter case is sufficient.

Checks.—A check on bank is a species of bill of exchange, but is governed by somewhat different rules from the ordinary bill. It need not be presented for acceptance, for a bank is bound to pay at any time if it have funds of the drawer on deposit; nor is it material that the holder delay presentment for payment. A check should, however, be presented immediately; this the drawer has a right to expect, and the delay is at the holder's risk, for if the bank fails in the meantime, the loss falls on him, if the drawer had funds on deposit sufficient to have paid the check had it been timely presented.

Certifying a check practically amounts to an acceptance and binds the bank as an acceptor.

Checks should be drawn to order to guard against loss and theft, and at the same time it acts as a receipt of the payee. A check is not a payment until it has been cashed.

In paying a forged check the loss falls on the bank, which is bound to know the signature of its own depositors, and, in like manner, if the check has been fraudulently raised, the drawer is chargeable only with th original amount.

INNS AND INN-KEEPERS.

An Inn is a public house for the lodging and entertainment of travelers for compensation, and the person who conducts such house is called an inn-keeper. To enable him to obtain his compensation the law invests an inn-keeper with peculiar privileges, giving him a lien upon the personal property brought into the inn by the guest, and on the other hand holds him to a strict degree of responsibility to the guest if the goods are lost or stolen.

The essential character of an inn is, that it is open for all who may desire to visit it; hence, a mere private boarding-house, or lodging-house, cannot, in any proper sense, be regarded as an inn; nor will a coffee-house or restaurant come within the term. A person who entertains travelers occasionally, although he may receive compensation, is not an inn-keeper, nor liable as such, provided he does not hold himself out in that character.

An Inn-keeper is bound to receive all travelers and wayfaring persons who may apply to him, and to provide entertainment for them, if he can accommodate them, unless they are drunk, or disorderly, or afflicted with contagious diseases. If a person be disorderly he may not only refuse to receive him, but even after he has received him may eject him from the house.

He is further bound to exercise a high degree of care over the person and property of his guests, and is held to a strict responsibility for all loss or damage which may occur through his negligence. This responsibility extends not only to his own acts, and the acts of his servants, but also to the acts of his other guests. The liability of an inn-keeper commences from the time the goods are brought into the inn or delivered to any of the inn-keeper's servants; and a delivery into the personal custody o the inn-keeper is not necessary in order to make him responsible. He is not liable for what are termed the act of God, or the public enemy; nor for property destroyed *without his negligence* by accidental fire; and, generally *the inn-keeper* will be exonorated if the negligence of t *guest occasion* the loss in such a way that the loss wo *not have happened* if the guest had used the ordinary *that a prudent* man may be reasonably expected to *taken under the* circumstances.

The strict liability of an inn-keeper has been much modified by statute, particularly in regard to money and valuables, and where the inn-keeper provides, in the office or some other convenient place in the hotel, an iron safe for the keeping of money, jewels, etc., and notifies his guests of that fact, and the guest neglects to avail himself of the opportunity thus afforded, the inn-keeper will not be liable for the losses sustained by the guest by theft or otherwise.

A guest, in the restricted and legal sense of that term, is the only person who is entitled to the privileges of protection, and to entitle him to this he must have the character of a traveler, a mere sojourner or temporary lodger, in distinction from one who engages for a fixed period, and at a certain agreed rate; but if a party is in fact a wayfarer, and his visit is only transient, it matters not how long he remains, provided he retains this character Thus, regular boarders by the week or month are not guests, nor are they entitled to the privileges of guests; and on the other hand, in the absence of an enabling statute, the landlord is not, as to them, an inn-keeper, and as such entitled to a lien on their effects for his compensation.

COMMON CARRIERS.

Generally.—A common carrier is one who undertakes for hire to transport the persons or goods of such as choose to employ him, from one point to another, and who does this as a business. The law compels him to take the goods or persons of all who may apply and to make due transport of them; it gives him a lien on such goods or on the baggage of passengers for his compensation, but at the same time holds him liable for all loss or injury, even though occurring without any fault or neglect on his part. Included under this head are dray and truckmen, hackmen, stage coach, railway and steamboat companies, and indeed all who hold themselves out as *transporters, either of* persons or goods, whether by land *or water.*

Carriers of Passengers.—A carrier of passengers bound to receive all who apply; to treat all alike; provide proper carriages and not to overload them;

stop at proper intervals for rest or food; to carry his passengers over the whole route contracted for, and to exercise the utmost care in protecting them from peril while on the journey. Failing in any of these particulars he is responsible, not only to the extent of the actual damage caused thereby, but frequently for pain and injury to the feelings.

In the sale of a ticket for transportation the foregoing is the implied agreement on the part of the carrier, and the passenger on the other hand accepts such ticket and contracts for passage subject to the reasonable regulations of the company.

A carrier of passengers is liable for any loss or damage to the baggage of his passengers, but only to the extent of what may reasonably and naturally be carried as baggage. This would not include large sums of money, nor merchandise, and, as a rule, damages in this respect are limited to such articles of necessity and personal convenience as are usually carried by travelers. Nor will the carrier be liable for any baggage not delivered to him or his servants; and hence, if the passenger keeps his baggage about his person, or in his own hands, or within his sight and immediate control, he assumes the risk of loss, and the carrier will not be held liable unless himself in fault.

Carriers of Goods.—A common carrier is an insurer of the safe transportation and delivery of all property intrusted to him for carriage, except as against such losses as are caused by the immediate act of God or the public enemy, and this liability continues until the goods have arrived at their destination and for a reasonable time after they are unloaded. But after safe delivery in the freight depot of the carrier and a reasonable time has elapsed for their removal, and particularly if notice of their arrival has been given to the consignee, the liability of the carrier as such ceases, and he will hold the property as a *warehouseman only.* In this latter event he will be bound to *no more than* ordinary care.

The acts of God are held to extend only to such inevitable accidents as occur without the intervention of man's agency. Hence, the carrier is not responsible for losse occurring from natural causes, such as frost, ferment tion, evaporation or natural decay of perishable articles, nor for the natural and necessary wear in the course of transportation, provided he exercises all reasonable care to have the loss or deterioration as little as practicable.

Carriers, both by land and water, are bound to take the goods of all who offer, and if they refuse, without just excuse, are liable to an action; yet they may restrict their business within such limits as they may deem expedient, and are not bound to accept goods out of the usual line of their business. They may also qualify their responsibility by notice brought to the knowledge of the shipper and assented to by him, but cannot even then excuse gross negligence on their part.

Warehousemen are persons who receive goods and merchandise to be stored for hire, and is the character sustained by a carrier after the goods have reached their destination. A warehouseman is bound to use ordinary care in preserving such goods and merchandise, and his neglect so to do will render him liable for any damage that may accrue. His liability commences as soon as the goods arrive at the warehouse.

Sleeping Cars.—Though sleeping cars are, comparatively, a modern invention, their wide use and general adoption by the public has already created quite a voluminous mass of law upon the subject, and the rights, both of the companies and the public, have become tolerably well defined. The service of the railway companies and of the sleeping car companies, though rendered in connection, are entirely separate and distinct. The business of the former is to furnish transportation, of the latter to provide accommodations that travelers may sleep, and in so doing they deal only with persons who are provided with tickets entitling them to transportation by the railway company over whose lines they operate

The sleeping car companies are not common carriers, like the railway companies, nor are they subject to the *duties or responsibilities* of carriers, nor can they be considered as *inn-keepers*, though performing many of their offices. *They* are not, therefore, insurers of the safety *of all property* taken into the car by one who has purchased the use of a berth. They are, however, bound afford protection to a sleeping passenger, and to exercise a reasonable care that he does not suffer loss. The faithful performance of this undertaking is the limit of their duty in this respect. They must keep a watch during the night to see that no unauthorized persons intrude themselves into the car, and take reasonable care to prevent thefts by the occupants; failing in this, they are liable for neglect.

The measure of their liability is limited to the value of such articles as are usually and ordinarily carried for comfort and convenience: the small articles usually carried in the hand, the clothing and personal ornaments of the passenger, and a reasonable sum of money for traveling expenses.

The nature of the employment of the sleeping car companies is public, and in this respect is the same as a common carrier or inn-keeper. They must treat all persons with fairness, and without unjust discrimination. Where there are berths not engaged, it is their duty to furnish them to unobjectionable applicants on tender of the customary price.

The passenger, when he is assigned a berth, impliedly agrees to conduct himself in a quiet and orderly manner, to take good care of the berth while in his possession, and surrender the same at the end of his journey in as good condition as when assigned to him, necessary wear excepted. The company, on the other hand, impliedly agrees that it will use ordinary and proper means to preserve order in the car during the journey, and especially during the sleeping hours; that it will furnish such conveniences as are necessary to the health and comfort of the passenger and permit him to quietly and peaceably occupy the berth engaged by him during the journey.

THE LAW OF THE ROAD.

General Principles.—To prevent collisions, and to secure the safety and convenience of travelers meeting and passing each other upon the highway, a code of rules has been adopted which constitutes what is called the law of the road These rules, originally established by custom, have, in many instances, been re-enacted and declared by statute, and are of general and uniform observance parts of the United States. In general, they apply to private ways, as well as public roads, and, indeed, extend to all places appropriated, either by law or in fact, for the purposes of travel.

The fundamental rule, applicable alike to all who use a traveled way, is, that every person must exercise reasonable care, adapted to the place and circumstances, to prevent collision and avoid accidents, and to this all other rules are subsidiary. No one will be entitled to redress for an injury sustained on the highway where his own negligence contributed to such injury, nor will the fact that a fellow-traveler fails to observe the law in the use of the road absolve another who is in the right from the duty of exercising ordinary care to avoid injury to himself or to prevent injury to the party who is in the wrong. At the same time, a person lawfully using a public highway has a right to assume that a fellow-traveler will observe the law and exercise ordinary care and prudence, and to govern his own conduct in determining his use of the road accordingly. This assumption he may rely on, not to justify carelessness on his own part, but to warrant him in pursuing his business in a convenient manner.

Vehicles.—It is a primary rule that vehicles meeting on a highway must bear or keep to the right. This, however, applies only to passing vehicles, for a person having before him the entire road free from carriages or other obstructions, and having no notice of any carriage behind him, is at liberty to travel upon any part of the way as suits his convenience or pleasure, and no blame can be imputed to him. But while a traveler may well occupy any part of the road if no other is using any portion of it, he must, upon all occasions of the meeting of another, reasonably turn to the right; and in all cases of a crowded condition of a thoroughfare must keep to the right of the center or traveled part of the way. A driver may, indeed, pass on the left side of the road, or across it, for the purpose of stopping at a house, a store, or other object on *that side; but he must* not interfere or obstruct another *lawfully passing on that* side; and if he does, he acts at *his peril, and must* answer for the consequences of his *violation of duty.* In such case he must pass before o *wait until the* person on that side of the way has passed o

Where two drivers are moving in the same direction, the one in advance is entitled to the road, provided he does not obstruct it, and is not bound to turn out for the other if there is room for the latter to pass on either side; if, however, there is not sufficient room to pass, the foremost traveler should yield an equal share of the road, on request made, if that is practicable. If it is not practicable, then they must defer passing until they reach more favorable grounds. If the leading traveler then refuses to comply with the request to permit the other to pass him, he will be answerable for such refusal. Ordinarily, when a driver attempts to pass another on a public road, he does so at his peril, and will be held responsible for all damages which he causes to the one whom he attempts to pass, and whose right to the proper use of the road is as great as his, unless the latter is guilty of such recklessness, or even gross carelessness, as would bring disaster upon himself.

The rule requiring persons meeting upon the highway to keep to the right is not imperative, however, and where a driver cannot safely turn to the right on meeting another vehicle, the law will absolve him from negligence in not attempting impossibilities; but where it is not practicable to pass to the right, either of the travelers should stop a reasonable time until the other passes; nor will the rule apply in the winter season, when the depth of snow renders it difficult or impossible to ascertain where the center of the road is. In such cases the center of the road is the beaten or traveled track, without reference to the worked part of the road. Again, the rule does not apply when one vehicle is passing along one street and another is passing into said street from a cross street.

A traveler is bound to keep his harness and carriage in good condition, and is liable for any damage that may result from a failure to do so; he must not drive at an immoderate rate of speed, and must yield the road to a *heavier or loaded* vehicle.

Equestrians are not governed by the same stringent rules that apply to drivers of vehicles, and usually all that is required of them is to exercise prudent care under the existing circumstances. They need not turn out in any particular direction or meeting another horseman or vehicle, but in crowded thoroughfares must keep to the proper side in passing, and must yield the traveled part of the road to a wagon.

Pedestrians have a right to use the carriage-way as well as the sidewalk, and drivers must exercise reasonable care to avoid injuring them, but a foot-passenger in crossing the street of a city has no prior right of way over a passing vehicle; both are bound to act with prudence to avoid an accident, and it is as much the duty of the pedestrian to look out for passing vehicles as it is for the driver to see that he does not run over any one; nor does the rule requiring vehicles to keep to the right apply to carriages and foot-passengers, for, as regards a foot-passenger, a carriage may go on either side.

LANDLORD AND TENANT.

The relation of landlord and tenant exists by virtue of a contract for the use or occupation of lands or tenements, either for a definite period, for life, or at will. It is usually created by express contract, but its existence will be implied by law whenever there is an ownership of land on the one hand and an occupation of it by permission on the other. In every such case it will be presumed that the occupant intends to compensate the owner for such use. While the relation may be inferred from a variety of circumstances, the most obvious acknowledgment is the payment of rent. If a tenant under an express contract hold over after the termination of his term, the landlord may consider him as a tenant, and, indeed, is so understood, unless he takes some steps to eject him. If the landlord receives rent from him, or by any other act admits the tenancy, a new leasing begins, and can only be terminated by a proper notice to quit.

The rights and obligations of the parties are usually considered as having commenced from the date of the lease, if there be one, and no other time has been designated as the commencement of the tenancy, or, if there be no date from the delivery of the papers, and if there be no writings, from the time the tenant entered into possession.

The Landlord is bound to protect the possessio his tenant, and to defend him against every one asserting a paramount right. Nor can the landlord do any act himself calculated to disturb the enjoyment of the tenant. He must, unless otherwise agreed, pay all taxes and assessments on the property, and all other charges of his own creation; and if the tenant, in order to protect himself in the enjoyment of the land, is compelled to make a payment which should have been made by the landlord, he may call upon his landlord to reimburse him, or deduct the amount from the rent.

The landlord has no right of possession during the continuance of the lease, nor indeed any substantial rights in the property further than such as may be necessary to protect his reversionary interests. He may go upon the premises peaceably and during reasonable hours, for the purpose of viewing same and ascertaining whether any waste or injury has been committed, and may make such repairs as are necessary to prevent waste; but he is under no obligation to make any repairs, nor does he guarantee that the premises are reasonably fit for the purposes for which they were taken. Nor can the tenant make any repairs at the expense of the landlord in the absence of a special agreement.

The tenant is entitled to all the rights incident to possession, and to the use of all the privileges appendant to the land, and, on the other hand, is personally liable for any misuse of same, or any nuisance or obstruction he may erect. He must use the premises in such a manner that no substantial injury shall be done them, and that they may revert to the landlord at the end of the term unimpaired by any negligent or willful conduct on his part. He must keep the premises in fair repair at his own expense, but is not bound to rebuild structures which have accidentally become ruinous during his occupation; nor is he answerable for incidental wear and tear, nor accidental fire, or flood.

He must further punctually pay the rent reserved, or if none have been specifically reserved, then such reasonable compensation as the premises are fairly worth. In *the absence* of special agreement he must pay only for the *time he has had* the beneficial enjoyment, but if he has *agreed to pay* for an entire term, as a rule nothing shor of an eviction will excuse him from such payment. If he is evicted by a third person, or if the landlord annoys him by the erection of a nuisance, or renders the premises untenantable, or makes his occupation so uncomfortable as to justify his removal, he will be discharged from the payment of rent.

The rights and liabilities of the relation are not confined to the immediate parties, but attach to all persons to whom the estate is transferred, or who may succeed to the possession of the premises. A landlord may not violate his tenant's rights by a sale of the property, nor can the tenant avoid his responsibility by assigning his term. The purchaser of the property becomes, in one case, the landlord, with all his rights and remedies, while in the other the assignee of the tenant assumes all the responsibilities of the latter, but the original lessee is not thereby discharged from his obligations.

The tenancy may be terminated in a variety of ways. If for a definite time, or conditioned on the happening of a certain event, it expires by its own limitation, and usually, when depending upon the express conditions of a lease, no notice to quit is necessary. If from year to year, or at will, a notice is always necessary. This must be in writing, and explicitly require the tenant to surrender up the premises. It must be served upon the tenant and afford the statutory notice in regard to time. A breach of any of the covenants of the lease will forfeit the tenant's rights, and when a tenancy has been terminated, by whatever cause, the landlord's right to re-enter becomes absolute.

The largest bell in the world is the great bell of Moscow, at the foot of the Kremlin. Its circumference at the bottom is nearly 68 feet, and its height more than 21 feet. In its stoutest part it is 23 inches thick, and its weight has been computed to be 443,772 lbs. It has never been hung, and was probably cast on the spot where it now stands. A piece of the bell is broken off. The fracture is supposed to have been occasioned by water *having been thrown* upon it when heated by the *building erected* over it being on fire.

WEATHER WISDOM.

HERSCHEL'S WEATHER TABLE.

FOR FORETELLING THE WEATHER, THROUGHOUT ALL THE LUNATIONS OF EACH YEAR, FOREVER.

This table, and the accompanying remarks, are the result of many years' actual observation, the whole being constructed on a due consideration of the attraction of the Sun and Moon, in their several positions respecting the Earth, and will, by simple inspection, show the observer what kind of weather will most probably follow the entrance of the Moon into any of its quarters, and that so near the truth as to seldom or never be found to fail.

If New Moon, First Quarter, Full Moon or Last Quarte happens	*In Summer.*	*In Winter.*
Between midnight and 2 o'clock..	Fair................	Frost unless wind Southwest.
" 2 and 4 morning......	Cold and showers....	Snow and stormy.
" 4 and 6 "	Rain................	Rain.
" 6 and 8 "	Wind and rain.......	Stormy.
" 8 and 10 "	Changeable......	Cold rain if wind W., snow if E.
" 10 and 12 "	Frequent showers....	Cold and high wind.
" 12 and 2 afternoon	Very rainy..........	Snow or rain.
" 2 and 4 "	Changeable..........	Fair and mild.
" 4 and 6 "	Fair................	Fair.
" 6 and 8 "	Fair if wind N. W...	Fair and frosty if wind N. or N. E.
" 8 and 10 "	Rainy if S. or S. W..	Rain or snow if South or S. W.
" 10 and midnight.........	Fair................	Fair and frosty.

SUNSET COLORS.—A gray, lowering sunset, or one where the sky is green or yellowish green, indicates rain. A red sunrise, with clouds lowering later in the morning, also indicates rain.

HALO (SUN DOGS).—By halo we mean the large circles, or parts of circles, about the sun or moon. A halo occurring after fine weather indicates a storm.

CORONA.—By this term we mean the small colored circles frequently seen around the sun or moon. A corona growing smaller indicates rain; growing larger, fair weather.

RAINBOWS.—A morning rainbow is regarded as a sign of rain; an evening rainbow of fair weather.

SKY COLOR.—A deep blue color of the sky, even when seen through clouds, indicates fair weather; a growing whiteness, an approaching storm.

FOG.—Fogs indicate settled weather. A morning fog usually breaks away before noon.

VISIBILITY.—Unusual clearness of the atmosphere unusual brightness or twinkling of the stars, indicate rain

CLOUDS.—In observing clouds, we observe their kinds, motions and outlines. The clouds frequently called "mare's tails" we term Cirri. They are marked by their light texture, fibrous and sundered as in the "mare's tail," or interlacing as in the far-spreading white cloud, which produces the halo. Small, regularly formed groups of these clouds are frequently seen in fair and settled weather. The Cirri are also the clouds on the forepart of the storm. In this case they are usually more abundant, their outline is very ragged, and they generally blend into a white, far-reaching cloud-bank. The cloud well known as "cotton bales," or "thunder heads," we term cumulus. When they appear during the heat of the day and pass away in the evening, continued fair weather may be expected. When they increase with rapidity, sink into the lower part of the atmosphere, and remain as the evening approaches, rain is at hand. If loose patches appear thrown out from their surfaces, showers may be expected. The clouds usually seen after nightfall, *lying in one horizontal* plane, and not of great extent, *are attendant on fine* weather. Small, black, inky clouds *and dark scud indicate* rain

BAROMETER.—In using the barometer, we should notice whether it be greatly above or below the mean height and the rapidity of its rise or fall. If it be higher and steady, continued fair, though not cloudless weather may be expected. If it be lower and falling, rain, or at least damp, cloudy weather, is at hand. A rapid rise or fall (greater than 0.01 inch per hour) indicates continued unsettled weather and much wind.

FROST.—The first frost and last frost are usually preceded by a temperature very much above the mean.

HEIGHTS OF WATERFALLS.

	FEET.
Cerosola Cascade, Alps, Switzerland	2,400
Falls of Arve, Savoy	1,100
Falls of St. Anthony, Upper Mississippi	60
Falls of Terni, near Rome	300
Fryer's, near Lochness, Scotland	200
Genesee Falls, Rochester, N. Y.	96
Lanterbaum, Lake Theen, Switzerland	900
Lidford Cascade, Devonshire, England	100
Missouri Falls, North America	90
Natchikin Falls, Kamschatka	300
Niagara Falls, North America	164
Mont Morency Falls, Canada, Quebec	250
Nile Cataracts, Upper Egypt	40
Passaic Falls, New Jersey	71
Tivoli Cascade, near Rome	40
Waterfall Mountain Cascade, South Africa	85

Great fire at Washington, broke out December 15, 1883. Great fire in New York occurred in December, 1885. Over 500 buildings and $20,000,000 worth of property was destroyed. The second great fire occurred on September 6, 1839. Over $10,000,000 worth of property was destroyed. Great fire at Chicago, Ill., was in October, 1871.

James Fisk was shot in the Grand Central Hotel on *Broadway, N. Y.*, on January 6, 1872.

STATES.	Voters must be males, 21 years old, and	Prev		
		State.	County.	Precinct.
Alabama	Citizens or have declared intentions	1 year	3 months	1 month
Arkansas	Citizens or have declared intentions	1 year	6 months	1 month
California	Actual citizens	1 year	90 days	30 days
Colorado	Citizens or have declared intentions	6 months		
Connecticut	Actual citizens	1 year	6 months	6 months
Delaware	Actual county tax-payers	1 year	1 month	
Florida	United States citizens or have declared intentions	1 year	6 months	
Georgia	Actual citizens	1 year	6 months	
Illinois	Actual citizens	1 year	90 days	30 days
Indiana	Citizens or have declared intentions	6 months	60 days	30 days
Iowa	Actual citizens	6 months	60 days	
Kansas	Citizens or have declared intentions	6 months		30 days
Kentucky	Free white male citizens	2 years	2 years	60 days
Louisiana	Citizens or have declared intentions	1 year	6 months	30 days
Maine	Actual citizens	3 months		
Maryland	Actual citizens	1 year	6 months	
Massachusetts	Citizens	1 year		6 months
Michigan	Citizens or have declared intentions	3 months		10 days
Minnesota	Citizens or have declared intentions	4 months		10 days
Mississippi	Actual citizens	6 months	1 month	
Missouri	Citizens or have declared intentions	1 year	60 days	
Nebraska	Citizens or have declared intentions	6 months		
Nevada	Citizens or have declared intentions	6 months	30 days	

QUALIFICATIONS FOR VOTING, ETC.—(Continued).

STATES.	Voters must be males, 21 years old, and	Previous residence required.		
		State.	County.	Precinct.
New Hampshire....	Actual citizens	....	....	Town 6 m.
New Jersey	Actual citizens..........	1 year....	5 months.	....
New York..........	Actual citizens..........	1 year....	4 months.	30 days ..
North Carolina	Actual citizens..........	12 months	90 days ..	....
Ohio	Actual citizens..........	1 year....	....	....
Oregon	Citizens or have declared intentions	6 months.	....	....
Pennsylvania.......	Actual citizens..........	1 year....	....	2 months.
Rhode Island.... ..	Actual tax-paying citizens..........	1 year....	....	Town 6 m.
South Carolina.....	Actual citizens..........	1 year....	60 days ..	....
Tennessee..........	Actual citizens..........	12 months	6 months.	....
Texas	Citizens or have declared intentions	1 year....	6 months.	6 months.
Vermont	Actual citizens..........	1 year....	....	....
Virginia............	Actual citizens..........	12 months	....	Town 3 m
West Virginia	Actual citizens..........	1 year....	60 days ..	....
Wisconsin...	Citizens or have declared intentions	1 year....	....	....

Women are entitled to full suffrage in Utah, Washington, and Wyoming Territories. They can vote at school elections in Massachussets and a few other States.

REGISTRATION.—In California, Connecticut, Illinois, Iowa, Maine, Massachusetts, Michigan, Minnesota, Nebraska, New Hampshire, Rhode Island, Vermont, Virginia and Wisconsin registration is required by law. In Colorado, Florida, Maryland, Mississippi, Nevada, North Carolina, Pennsylvania and South Carolina registration is a constitutional requirement. In Kansas and Missouri registration is required in cities only, in Ohio in the cities of Cincinnati and Cleveland only, and in New York and New Jersey in cities of 10,000 inhabitants and upward. In Alabama, Delaware, Georgia, Indiana, Kentucky, Louisiana and Tennessee registration is required; and in Arkansas, Texas and West Virginia it is prohibited by the State Constitution.

INTEREST LAWS AND STATUTES OF LIMITATIONS.

STATES AND TERRITORIES.	INTEREST LAWS.		STATUTES OF LIMITATIONS.		
	Legal Rate.	Rate Allowed by Contract.	Judgments, Years.	Notes, Years.	Open Accounts, Years.
	per ct	*per ct.*			
Alabama	8	8	20	6	3
Arkansas	6	10	10	5	3
Arizona	10	Any rate.	2	3	2
California	7	Any rate.	5	4	2
Colorado	10	Any rate.	6	6	6
Connecticut	6	6	17	17	6
Dakota	7	12	20	6	6
Delaware	6	6	21	6	3
District of Columbia	6	10	12	3	3
Florida	8	Any rate.	20	5	3
Georgia	7	8	7	7	4
Idaho	10	18	6	5	4
Illinois	6	8	7	10	5
Indiana	6	8	20	10	6
Iowa	6	10	20	10	5
Kansas	7	12	5	5	3
Kentucky	6	10	15	15	2
Louisiana	5	8	10	5	3
Maine	6	Any rate.	20	6	6
Maryland	6	6	12	3	3
Massachusetts	6	Any rate.	20	6	6
Michigan	7	10	6	6	2
Minnesota	7	10	10	6	6
Mississippi	6	10	7	6	3
Missouri	6	10	5	10	5
Montana	10	Any rate.	6	6	2
Nebraska	7	10	5	5	5
Nevada	10	Any rate.	6	6	4
New Hampshire	6	6	20	6	6
New Jersey	6	6	20	6	6
New Mexico	6	12	15	6	4
New York*	6	6	20	6	6
North Carolina	6	8	10	3	3
Ohio	6	8	5	15	6
Oregon	8	10	10	6	[illegible]
Pennsylvania	6	6	5	6	6
Rhode Island	6	Any rate.	20	6	[illegible]

INTEREST LAWS, ETC.—(Continued.)

STATES AND TERRITORIES.	INTEREST LAWS.		STATUTES LIMITATIONS.		
	Legal Rate.	Rate Allowed by Contract.	Judgments, Years.	Notes, Years.	Open Accounts, Years.
	per ct	*per ct.*			
South Carolina	7	Any rate.	10	6	6
Tennessee	6	10	10	6	6
Texas	8	12	15	4	2
Utah................	10	Any rate.	5	4	2
Vermont............	6	6	8	6	6
Virginia	6	8	10	5	2
Washington Ter	10	Any rate.	6	6	3
West Virginia.......	6	6	10	10	3
Wisconsin	7	10	20	6	6
Wyoming	12	Any rate.	5	5	4

*New York has by a recent law legalized any rate of interest on call loans of $5,000 or upward, on collateral security.

Value of merchandise and of gold and silver coin and bullion imported into and exported from the United States from 1870 to 1888, inclusive; also annual excess of imports or of exports—specie values.

Year ending June 30.	Total exports.	Imports.	Excess of exports over imports.	Excess of imports over exports.
1870	$450,927,434	$462,377,587	....	$ 11,450,153
1871	541,262,166	541,493,708	....	231,542
1872	524,055,120	640,338,766	....	116,283,646
1873	607,088,490	663,617,147	....	56,528,651
1874	652,913,445	595,861,248	$ 57,052,197	....
1875	605,574,853	553,906,153	91,668,700	....
1876	596,890,973	476,677,871	120,213,102	....
1877	658,637,457	492,097,540	166,539,917	....
1878	728,605,891	466,872,846	261,733,045	....
1879	735,436,882	466,073,775	269,363,107	....
1880 ...	852,781,577	760,989,056	91,792,521	....
1881	921,784,193	753,240,125	168,544,068	....
1882	799,959,736	767,111,964	32,847,772	....
1883	855,659,735	751,670,305	103,989,430	....
1884	807,646,992	705,123,955	102,523,037	....
1885	784,421,280	620,769,652	163,651,628	....
1886	*751,988,240*	674,029,792	77,958,448	....
1887	*752,180,902*	752,490,560	....	309,658
1888	*742,368,822*	783,217,799	....	40,848,977

UNITED STATES CUSTOM DUTIES.

(ABRIDGED.)

Animals for breeding purposes	free on Consular ce tificates.
“ otherwise	20 per cent.
Ale, Porter and Beer, in bottles	40 cts per gallon
“ “ “ in casks	20 cents per gallon
Books, charts, new	25 per cent
“ “ for Colleges, Libraries, or printed more than 20 years, or in use abroad more than one year and not for sale	free
Boots, Shoes, Leather	35 per cent
Bronze, manufactures of	45 per cent
Carpets, Aubusson, Axminster, and all woven whole for room	60 cts per sq yd an 40 per cent
“ Brussels, Tapestry, printed on the warp, or otherwise	28 cts per sq yd an 40 per cent
“ Brussels, figured or plain	44 cts per sq yd an 40 per cent
“ Saxony, Wilton & Tornay Velvet, wrought by the Jacquard machine	60 cts per sq yd an 40 per cent
“ Treble Ingrain, three ply, and Worsted China Venetian	19 cts per sq yd an 40 per cent
“ Velvet, Patent or Tapestry, printed on the warp or otherwise	40 cts per sq yd an 40 per cent
Carriages	35 per cent
China—Porcelain and Parian Ware, plain	55 per cent
“ Gilded, ornamented or decorated	60 per cent
Cigars, Cheroots, and Cigarettes	$4.50 per ℔ and 25 pe cent
Clocks	45 per cent
Clothing, wholly or in part wool	44 cts per ℔ and 5 per cent
“ Linen	40 per cent
“ Silk component	50 per cent
“ All other descriptions	35 per cent
Coal and Coke, bituminous	75 cts per ton
Coral, cut or manufactured	25 per cent
Cutlery, Table, etc	10 cts to $5 per do and 30 per cent
“ Pen, Jack and Pocket Knives	12 cts to $2 per do and 50 per cent
Diamonds and other precious stones, set	25 per cent
“ Unset	10 per cent
“ Set	50 per cent
Engravings	25 per cent
Furniture	35 per cent
Furs, manufactured	35 per cent

Gilt and plated ware, etc	35 per cent
Glass ware	60 per cent
Gloves, Kid	50 per cent
Gold and silver ware, etc	45 per cent
Guns	25 per cent
Hay	$4 per ton
Household effects, in use abroad one year and not for sale	free
Instruments, professional and in use	free
Iron, Pig and Scrap	$\frac{3}{10}$ cts per ℔
Jewelry—Gold, Silver or imitation	50 per cent
“ Jet and Imitation of	25 per cent
Laces, Silk	60 per cent
“ Silk and Cotton	50 per cent
“ Thread	35 per cent
Leather, manufactures of	35 per cent
Linen—Table, Toweling, etc	35 per cent
Machinery, brass or iron	45 per cent
“ copper or steel	45 per cent
Oils—Animal	30 per cent
“ Castor	80 cts per gallon.
“ Olive	35 cts per gallon.
Paintings	15 per cent
“ if work of an American artist.	free
“ Frames for ditto	35 per cent
Photographs	25 per cent
Pipes—Meerschaum, Wood, and of all other material, except common clay	70 per cent
Prints or Engravings	25 per cent
Rubber Boots, Shoes, and other articles wholly of rubber (not fabrics)	30 per cent
“ Braces, Suspenders, Webbing, etc., unless in part silk	60 cts per ℔ and 60 per cent
“ Silk, Cotton, Worsted or Leather	50 per cent
Saddles and Harness	35 per cent
Shawls—Silk	60 per cent
“ Camel's Hair or other wool	35 cts per ℔ and 40 per cent
Silk—Dress and Piece	50 per cent
Smokers' Articles	70 per cent
Snuff	50 cts per ℔
Soap—Castile	1¼ cts per ℔
“ Fancy, Perfumed, Toilet and Windsor	20 per cent
Statuary, Marble	15 per cent
Stereoscopic views, on glass or paper	60 per cent
Spirits—Brandy, Whisky, Gin, etc	$2.50 per proof gallon
Umbrellas—Silk or Alpaca	55 per cent
Velvet—Silk	$3.50 per ℔ and 15 per cent
Velvet —Cotton or mostly cotton	$1.50 per ℔ and 15 per cent

Watches	25 per cent	
Wines—All *still* Wines, such as Sherry	50 cts per gallon	
Claret, or Hock, in casks	$1.60 per case	and 3 cts per bottle.
Ditto, in bottles of 1 pint and less	1.60 per case	
Ditto, in bottles of over 1 pint and less than 1 quart	1.70 per doz	
All Champagnes and Sparkling Wines in bottles of ½ pints or less	2.00 per doz	
Ditto, in bottles of over ½ pint and not more than 1 pint	4.00 per doz	
Ditto, in bottles of over 1 pint and not more than 1 quart	8.00 per doz	
Ditto, in bottles of over 1 quart (extra)	2.50 per gallon	

ARTICLES FREE OF DUTY.

Actors' costumes and effects intended for personal use.
Animals for breeding purposes.
Antiquities not for sale.
Articles and tools of trade.
Art works of American artists.
Bed feathers.
Birds, land and water fowl.
Books printed over 20 years.
Books printed in other than the English language.
Coal—anthracite.
Cocoa.
Coffee.
Collections of antiquities, etc., for use in colleges, museums, incorporated societies, etc.
Diamonds, rough.
Effects of American citizens dying abroad, if accompanied by Consular certificate.
Engravings (engraved over 20 years).
Farina.
Fertilizers.
Fruits and nuts.
Furs, undressed.
Hides, raw.
Household effects in use abroad over one year and *not for sale.*

India rubber.
Mineral waters, natural.
Mother of pearl, unmanufactured.
Natural history specimens (not for sale).
Newspapers.
Periodicals.
Personal effects when old and in use over a year.
Plants, trees and shrubs.
Rags, other than wool.
Rubber—crude.
Scientific instruments.
Skins—raw.
Tapioca.
Tea.
United States manufactures forwarded to foreign countries and returned.
Wax, Vegetable and Mineral.

LARGEST CITIES OF THE EARTH.

POPULATION ACCORDING TO LATEST CENSUS.

Adrianople, Turkey	778,603
Amsterdam, Holland	399,424
Antwerp, Belgium	215,779
Baltimore, United States	433,547
Barcelona, Spaiu	272,481
Bangkok, India (est.)	600,000
Berlin, Prussia	1,315,287
Belfast, Ireland	208,122
Birmingham, England	454,835
Bombay, India	773,196
Boston, United States	446,507
Bordeaux, France	240,582
Breslau, Prussia	229,640
Bradford, England	235,056
Bristol, England	229,361
Brooklyn, United States	804,377
Brussels, Belgium	469,317
Buda Pesth. Hungary	422,557
Bucharest, Roumania	246,088
Buenos Ayres, Argentine Republic	528,385

Canton, China	1,600,000
Cairo, Egypt	368,108
Calcutta, India	871,504
Chicago, United States	1,098,576
Cincinnati, United States	296,309
Constantinople, Turkey	873,565
Copenhagen, Denmark	286,900
Dresden, Saxony	246,086
Dublin, Ireland	353,000
Edinburgh, Scotland	236,002
Foochow, China	630,000
Fatschaw China (est.)	400,000
Genoa, Italy	179,515
Glasgow, Scotland	674,095
Hankow, China	775,000
Hamburg, Germany	315,033
Hangtscheu-fi, China (est.)	400,000
Hutchew, China (est.)	200,000
Hyderabad, India	354,692
Jangtschaw, China	360,000
Jongping, China (est.)	200,000
Kioto, Japan	264,559
Leeds, England	375,449
Leinkhong, China (est.)	250,000
Lisbon, Portugal	518,884
Lisle, France	188,272
Liverpool, England	604,562
London, England	4.351,738
Lucknow, India	261,303
Lyons, France	401,930
Madras, India	405,848
Madrid, Spain	472,228
Manchester, England	378,800
Marseilles, France	376.143
Melbourne, Australia	437,785
Mexico, Mexico	350,000
Milan, Italy	321,839
Moscow, Russia	753,469
Munich, Bavaria	261.981
Naples, Italy	494,314

New Orleans, United States	241,995
New York, United States	1,600,000
Nottingham, England	237,812
Odessa, Russia	270,643
Osaka, Japan	432,005
Palermo, Italy	244,921
Paris, France	2,344,550
Pekin, China (est.)	500,000
Philadelphia, United States	1,044,895
Rio de Janeiro, Brazil	782,724
Rome, Italy	273,268
Salford, England	208,017
Salonica, Turkey	966,308
San Francisco, United States	297,990
Schaohing, China (est.)	500,000
Shanghai, China	335,000
Sheffield, England	261,308
Siangtau, China	1,300,000
Singan-fu, China	1,500,000
St. Louis, United States	450,245
St. Petersburg, Russia	978,309
Stockholm, Sweden	234,990
Sutchaw, China (est.)	500,000
Sydney, Australia	357,865
Taijien fu, China (est.)	250,000
Taiwam-fu, China (est.)	235,000
Teheran, Persia	210,000
Teng'schan-fu, China (est.)	230,000
Tientsing, China	950,000
Tokio, Japan	1,165,048
Tsinau-fu, China (est.)	200,000
Tschautshau-fu, China	1,500,000
Tschingtu-fu, China (est.)	800,000
Tschungking-fu, China (est.)	600,000
Turin, Italy	252,835
Vienna, Austria	1,350,000
Warsaw, Poland	454,898
Weihein, China (est.)	250,000

POPULATION OF CITIES IN THE UNITED STATES

CONTAINING 6,000 INHABITANTS AND OVER, WITH THEIR POPULATION IN 1880 AND IN 1870.

CENSUS OF 1890.

	1890	1880	1870
Adams, Mass	9,206	5,591	12,090
Adrian, Mich	9,239	7.849	8,438
Akron, O	27,702	16,512	10,006
Albany, N. Y	94,640	90.758	69,422
Albuquerque, N. M	6,058	2.315	1,307
Alexandria, Va	14,318	13,659	13,570
Allegheny, Pa	104,967	78,682	53,180
Allentown, Pa	25,183	18,063	13,884
Alliance, O	7,598	4,626	....
Alpena, Mich	11,228	6,158	2.612
Alton, Ill	10,184	8,975	8,665
Altoona, Pa	30,269	19,710	10,610
Amesbury, Mass	9,797	3,355	5,581
Americus, Ga	6,335	3,635	3,259
Amsterdam, N. Y.	17,264	9,466	5,426
Anderson, Ind	10,759	4,126	3,126
Andover, Mass	6,129	5,169	4,873
Annapolis, Md	7,625	6,642	5.744
Ann Arbor, Mich	9,509	8,061	7.363
Appleton, Wis	11,825	8,005	4.518
Asheville, N. C	10,443	2,616	1.400
Ashland, Pa	7,376	6,052	5.714
Ashland, Wis	16,145	900	....
Ashtabula, O	8,316	4,445	1,999
Astoria, Ore	7,071	2,803	639
Atchison, Kan	14,122	15,105	7,054
Athol, Mass	6,318	4,307	3.517
Athens, Ga	8,628	6,099	4.251
Atlantic City, N. J	13,038	5.477	1.043
Atlanta, Ga	65,515	37,409	21.789
Attleboro, Mass	14.302	11,111	6.769
Auburn, N. Y	25,887	21.924	17.225
Auburn, Me	11,228	9.555	6.169
Augusta, Ga	33.152	21.891	15,389
Augusta, Me	10.521	8.665	7.808
Aurora, Ill	19.634	11.873	11.162
Austin, Tex	15,324	10,013	4.428
Baltimore, Md	433.547	332,313	267.354
Bangor, Me	19.090	16.856	8,289
Batavia, N. Y	7,200	4,845	3,890
Baton Rouge, La	10.397	7,197	6,498
Battle Creek, Mich	13,190	7,063	5,838
Bath, Me	3,713	7.874	7,371
Bay City, Mich	27,836	20,693	7,064
Bayonne, N. J	18,996	9,372	3,834
Beatrice, Neb	13,921	2,447	624
Beaver Falls, Pa	9,734	5,104	1,120
Beloit, Wis	6,276	4,790	4.396
Bellaire, O	9,901	8,025	4,033
Belleville, Ill	15,360	10,683	8,146
Bethlehem, Pa	6,750	5,193	4,512
Beverly, Mass	10,795	8,456	6,507
Biddeford, Me	14,418	12,651	10,282

Binghampton, N.Y	35,093	17,317	12,692
Birmingham, Ala	26,341	400	......
Blackstone, Mass	6,137	4,907	5,421
Bloomington, Ill	22,242	17,180	14,590
Boone, Iowa	6,518	3,330	......
Boston, Mass	446,507	362,839	250,526
Bowling Green, Ky	7,790	5,114	4,574
Bradford, Pa	10,478	9,197	1,446
Brattleboro, Vt	6,859	5,880	4,933
Bridgeton, N. J	11,471	8,722	......
Bridgeport, Conn	48,856	27,643	18,969
Bristol, Conn	7,374	5,347	3,788
Brockton, Mass	27,278	13,608	8,007
Brooklyn, N. Y	804,377	566,663	396,099
Brookline, Mass	12,076	8,057	......
Brunswick, Ga	8,403	2,891	2,348
Buffalo, N. Y	254,457	155,134	117,714
Burlington, Iowa	22,528	19,450	14,930
Burlington, N. J	8,198	6,090	5,817
Burlington, Vt	14,566	11,365	14,387
Butler, Pa	8,715	3,163	984
Butte City, Mont	10,701	3,363	241
Cairo, Ill	14,000	9,011	6,267
Calais, Me	7,277	6,173	5,944
Cambridge, Mass	69,837	52,669	39,634
Camden, N. J	58,274	41,659	20,045
Canton, O	26,327	12,258	8,660
Carbondale, Pa	10,826	7,714	6,393
Carlisle, Pa	8,031	6,209	6,650
Carthage, Mo	7,962	4,167	......
Cedar Rapids, Ia	17,997	10,104	5,940
Chambersburg, Pa	8,016	6,877	6,308
Charleston, S. C	54,592	49,984	48,956
Charlestown, W. Va	6,734	4,192	1,593
Charlotte, N. C	11,555	7,094	4,473
Chattanooga, Tenn	29,109	12,892	6,093
Cheboygan, Mich	6,244	2,269	......
Chelsea, Mass	27,850	21,782	18,547
Chester, Pa	20,167	14,997	9,485
Cheyenne, Wyo	11,693	3,456	1,450
Chicago, Ill	1,098,576	503,185	298,977
Chicopee, Mass	14,007	11,286	9,607
Chillicothe, O	11,256	10,938	8,920
Chippewa Falls, Wis	8,528	3,982	2,507
Cincinnati, O	296,309	255,139	216,239
Circleville, O	6,675	6,046	5,407
Clarkesville, Tenn	8,053	3,880	3,200
Cleveland, O	261,546	160,146	72,829
Clinton, Iowa	13,629	9,052	6,129
Clinton, Mass	10,379	8,029	5,429
Cohoes, N. Y	22,432	19,416	15,357
Columbia, Pa	10,597	8,312	6,461
Columbia, S. C	14,508	10,036	9,298
Colorado Springs, Colo	11,200	4,226	81
Columbus, Ga	18,650	10,123	7,401
Columbus, Ind	6,705	4,813	3,359
Columbus, O	90,398	51,647	31,274
Concord, N. H	16,948	13,843	12,241
Corning, N. Y	8,553	4,802	4,018
Corsicana, Tex	8,278	3,373	80
Cortland, N. Y	8,561	4,050	3,066
Council Bluffs, Iowa	21,388	18,063	10,020
Covington, Ky	37,375	29,720	24,505
Crawfordsville, Ind	6,086	5,251	3,701

Creston, Iowa	7,119	5,081	411
Cumberland, Md	10,030	10,693	8,056
Dallas, Tex	38,140	10,358	13,314
Danbury, Conn	19,385	11,666	8,753
Danville, Ill	11,528	7,733	4,751
Danville, Pa	9,073	8,346	8,436
Danville, Va	10,285	7,738	3,463
Danvers, Mass	7,446	6,598	5,600
Dayton, O	58,868	38,678	30,473
Davenport, Iowa	25,161	21,831	20,038
Decatur, Ill	16,841	9,547	7,161
Dedham, Mass	7,116	6,233	7,342
Defiance, O	7,681	5,907	2,750
Delaware, O	8,202	6,894	5,641
Denison, Tex	10,959	......	......
Denver, Colo	106,670	35,629	4,759
Des Moines, Ia	50,067	22,408	5,241
Detroit, Mich	205,669	116,340	79,577
Dover, N. H	12,779	11,687	9,204
Dubuque, Iowa	30,147	22,254	18,434
Du Bois, Pa	6,137	2,718	......
Duluth, Minn	32,725	5,415	3,131
Dunkirk, N. Y	9,402	7,248	5,231
Dunmore, Pa	8,242	5,151	......
Easton, Pa	14,194	11,924	10,937
E. Liverpool, O	10,947	5,568	2,105
E. Portland, Ore	10,481	2,934	830
E. Saginaw, Mich	46,137	19,016	11,350
E. St. Louis, Ill	15,156	9,185	5,644
Eau Claire, Wis	17,438	10,119	2,293
Elgin, Ill	17,429	8,787	5,441
Elizabeth, N. J	37,670	28,229	20,832
Elkhart, Ind	11,489	6,953	3,265
Elmira, N. Y	28,070	20,541	15,863
El Paso, Tex	10,836	736	764
Emporia, Kan	7,550	4,631	2,168
Enfield, Conn	7,196	3,500	6,322
Erie, Pa	39,699	27,737	19,646
Evansville, Ind	50,674	29,280	21,830
Everett, Mass	11,040	4,159	2,220
Fall River, Mass	74,351	48,961	26,766
Faribault, Minn	6,524	5,415	3,045
Findlay, O	18,672	4,633	3,315
Fitchburg, Mass	22.007	12,429	11,260
Flint, Mich	9,845	8,409	5,386
Fond du Lac, Wis	11,942	13,094	12,764
Fort Madison, Ia	7,906	4,679	4,011
Fort Scott, Kan	11,837	5,372	4,174
Fort Smith, Ark	11,291	3,099	2,227
Fort Wayne, Ind	35,349	26,880	17,718
Fort Worth, Tex	20,725	6,663	......
Framingham, Mass	9,636	6,235	4,968
Frankfort, Ky	8,500	6,958	5,396
Franklin, Pa	6,220	5,010	3,908
Frederick, Md	9,621	8,659	8,526
Freeport, Ill	10,159	8,516	7,889
Fremont, O	7,140	8,446	5,455
Fremont, Neb	6,654	3,013	1,195
Fresno, Cal	10,796	1,112	......
Gainesville, Tex	6,563	2,667	......
Galena, Ill	6,406	6,541	7,019
Galesburg, Ill	15,212	11,437	10,158
Galveston, Tex	29,118	22,248	13,818
Gardner, Mass	8,386	4,988	3,333

Geneva, N. Y.	6,524	5,878	5,521
Gloucester, Mass	21,262	19,329	15,389
Gloucester, N. J.	6,563	5,347	3,682
Gloversville, N. Y	13,796	7,133	4,518
Goldsboro, N. C.	6,325	3,286	1,134
Goshen, Ind	6,027	4,123	3,133
Grand Rapids, Mich.	64,147	32,016	16,507
Grand Island, Neb	7,632	2,963	1,057
Green Bay, Wis.	8,879	7,464	4,666
Greenville, S. C.	8,588	6,160	2,757
Greenwich, Conn	10,120	7,892	7,644
Hackensack, N. J.	6,000	4,248	3,038
Hagerstown, Md.	11,698	6,627	5,779
Hamilton, O.	17.519	12,122	11,081
Hampton, Va.	6,538	2,648	2,300
Hannibal, Mo	12,816	11,074	10,125
Harrisburg, Pa.	40,164	30,762	23,104
Harrison, N. J.	8.528	6,898	4,129
Hartford, Conn.	53,182	42,015	37,180
Hastings, Neb.	13,793	2,817	......
Haverhill, Mass	27,322	18,472	13,092
Hazelton, Pa.	11,818	6,935	4,317
Helena, Mont	13,834	3,624	3,106
Henderson, Ky.	8,830	5,365	4,171
Hoboken, N. J.	43,561	30,999	20,297
Holyoke, Mass.	35,528	21,915	16,733
Hopkinsville, Ky.	6,457	4,229	3,136
Hornellsville, N. Y.	10,948	8,195	4,552
Houston, Tex.	27,411	16,513	9,382
Hot Springs, Ark.	7,115	3,554	......
Hudson, N. Y	10,027	8,670	8,615
Huntingdon, Pa.	6,062	4,125	3,034
Huntsville, Ala.	7,995	4,977	4,907
Huntington, Ind.	7,300	3,863	2,925
Huntington, W. Va.	10,084	3,174	......
Hutchinson, Kan	8,378	1,538	......
Hyde Park, Mass,	10,200	7,088	4,136
Independence, Mo	6,373	3,146	3,184
Indianapolis, Ind	107,445	75,056	48,244
Ironton, O.	10,922	8,857	5,686
Ishpeming, Mich.	11,184	6,039	6,103
Ithaca, N. Y.	11,557	9,105	8,462
Jackson, Mich.	20,779	16,105	11.447
Jackson, Tenn.	10,022	5,377	4,119
Jackson, Miss.	6,041	5,204	4,234
Jacksonville, Fla	17,160	7,650	6,912
Jacksonville, Ill.	12,357	10,927	9,203
Jamestown, N. Y	15,991	9,357	5,336
Janesville, Wis.	10,631	9,018	8,798
Jeffersonville, Ind.	11,274	9,357	7,254
Jefferson City, Mo.	6,732	5,271	4,420
Jersey City, N. J.	163,987	120,722	82.546
Johnstown, N. Y	10,851	5.013	3.282
Johnstown, Pa.	23.653	8,380	6.028
Joliet, Ill.	27.407	11,657	7,263
Joplin, Mo.	9.909	7,038	......
Kalamazoo, Mich.	17.857	8,057	9.181
Kankakee, Ill.	7,300	5.651	5.189
Kansas City, Mo.	132.416	55,785	32,260
Kansas City, Kan.	38,271	3,202	......
Keene, N. H.	7,430	6,784	5,971
Kenosha, Wis.	6.529	5,039	4,309
Keokuk, Iowa	14.075	12,117	12,766
Key West, Fla.	18,058	6,890	5,016

Killingly, Conn	7,025	6,921	5,712
Kingston, N. Y	21,181	18,344	6,315
Kokomo, Ind	8,224	4,042	2,177
Knoxville, Tenn	22,447	9,693	8,682
La Crosse, Wis	25,053	14,505	7,785
La Fayette, Ind	16,407	14,860	13,506
Lancaster, O	8,297	6,803	2,860
Lancaster, Pa	39,090	25,769	20,233
Lansing, Mich	12,630	8,319	5,241
Lansingburg, N.Y	10,523	7,432	6,372
La Porte, Ind	7,122	6,195	6,581
Laramie, Wyo	6,395	2,696	828
Laredo, Tex	11,313	3,521	2,046
La Salle, Ill	11,610	7,847	5,200
Lawrence, Mass	44,559	39,151	28,921
Lawrence, Kan	9,975	8,510	8,320
Leadville, Col	11,159	14,820	......
Leavenworth, Kan	24,613	16,546	17,873
Lebanon, Pa	14,734	8,778	6,727
Leominster, Mass	7,266	5,772	3,894
Lewiston, Me	21,668	19,083	13,600
Lexington, Ky	22,355	16,656	14,801
Lima, O	15,970	7,567	4,500
Lincoln, Ill	6,125	5,639	......
Lincoln, Neb	55,491	13,004	7,889
Little Falls, N. Y	9,072	6,910	5,387
Little Rock, Ark	22,496	13,138	12,380
Lock Haven, Pa	7,350	5,845	6,986
Lockport, N. Y	16,003	13,522	12,426
Logansport, Ind	13,798	11,198	8,950
Long Island City, N.Y	30,396	17,129	3,867
Los Angeles, Cal	50,394	11,183	5,728
Louisville, Ky	161,005	123,758	100,752
Lowell, Mass	77,605	59,475	40,928
Ludington, Mich	7,499	4,190	......
Lynchburg, Va	19,779	15,959	6,825
Lynn, Mass	55,684	38,274	28,233
Macon, Ga	22,698	12,479	10,810
Madison, Ind	8,923	8,945	10,709
Madison, Wis	13,392	10,324	9,176
Mahanoy, Pa	11,291	7,181	5,533
Malden, Mass	22,984	12,017	7,367
Malone, N. Y	8,774	4,193	......
Manchester, N. H	43,983	32,630	23,536
Manchester, Va	9,229	5,729	2,599
Manchester, Conn	8,217	6,462	4,223
Manistee, Mich	12,299	6,930	3,343
Mankato, Minn	8,865	5,550	3,482
Manitowoc, Wis	7,525	6,367	5,168
Mansfield, O	13,542	9,859	8,029
Marblehead, Mass	8,200	7,467	7,703
Marietta, O	8,308	5,444	5,218
Marion, Ind	8,724	3,182	1,658
Marion, O	8,308	3,899	2,531
Marinette, Wis	11,513	2,750	......
Marlboro, Mass	13,788	10,127	8,474
Marquette, Mich	9,096	4,690	4,000
Marshall, Tex	7,196	5,624	1,920
Marshalltown, Ia	9,308	6,240	3,218
Martinsburg, W.Va	7,207	6,335	4,863
Martin's Ferry, O	6,247	3,819	......
Massillon, O	10,068	6,836	5,185
Mattoon, Ill	6,829	5,737	4,967
McKeesport, Pa	20,711	8,212	2,523

Meadville, Pa	9,502	8,860	7,103
Medford, Mass	11.052	7,573	5,717
Melrose, Mass	8,500	4,560	3,414
Memphis, Tenn	64,586	33,592	40,226
Menominee, Mich	10.606	3,288	1,597
Meriden, Conn	21,230	15,540	10,495
Meridian, Miss	10,889	4,008	2,709
Michigan City, Ind	10.704	7,366	3.985
Middletown, Conn	9.012	11,731	6,923
Middletown, N.Y	11,918	8,494	6,049
Middletown, O	7,673	4,538	3,046
Middleboro, Mass	6,052	5,237	4,687
Milwaukee, Wis	204,150	115,587	71,440
Millville, N. J	9.957	7,660	6,101
Milford, Mass	8,769	9,310	9,890
Minneapolis, Minn	164.738	46,887	13,066
Mobile, Ala	31.822	29,132	32,034
Moberly, Mo	8,213	6,070	1,514
Moline, Ill	11,996	7,800	4,166
Montague, Mass	6,292	4,875	2,224
Montgomery, Ala	21,790	16,713	10,588
Morristown, N. J	8,500	5,418	5,674
Mt. Carmel, Pa	8.251	1,756	2,451
Mt. Vernon, O	6.016	5,249	4,876
Muncie, Ind	11,339	5,219	2,992
Muscatine, Ia	11.432	8,295	6,718
Muskegon, Mich	22,668	11,262	6,002
Nanticoke, Pa	10.037	3,884	......
Natick, Mass	9,176	8,479	6,404
Nashua, N. H	19.266	13,397	10,543
Nashville, Tenn	76,309	43,350	25,865
Natchez, Miss	10,132	7,058	9,057
Naugatuck, Conn	6.219	4,274	2,830
Nebraska City, Neb	11.472	4,183	6,050
Negaunee, Mich	6,061	3,931	2,559
Newark, N. J	181.515	136.508	105,059
Newark, O	14,369	9,600	6,698
New Albany, Ind	21.008	16,423	14,397
New Bedford, Mass	40.705	26,845	21,320
New Berne, N. C	7 832	6,443	5,849
New Brighton, N.Y	19,000	12,679	7,495
New Britain, Conn	19.010	11,800	9,480
Newburg, N. Y	23.263	18,049	17,014
Newburyport, Mass	13,914	13,538	12,595
New Brunswick, N. J	18,459	17,166	15,058
New Castle, Pa	11,581	8,418	6,164
New Haven, Conn	85.981	62,882	50,840
New London, Conn	13,759	10,537	9,576
New Orleans, La	241,995	216,090	191,418
Newport, Ky	24.938	20,433	15,087
Newport, R. I	19.449	15,693	12,251
Newton, Mass	24.357	16,995	12.825
New York, N.Y	1.513,501	1,206.299	942,292
Norfolk, Va	34.986	21.966	19,229
Norristown, Pa	19,750	13.063	10,753
North Adams, Mass	16,067	10,191	......
Northampton, Mass	14.961	12,172	10,160
Norwalk, Conn	17.739	7,560	12,119
Norwalk, O	7.268	5,704	4,498
Norwich, Conn	16,192	15,112	16,653
Oakland, Cal	48.540	34,555	10,500
Ogden, Utah	14.919	6,069	3,127
Ogdensburg, N. Y	11,667	10,341	10,076
Oil City, Pa	10,943	7,315	2,276

Omaha, Neb	139,526	30,518	16,083
Oneonta, N. Y	6,268	1,711	1,061
Orange, N. J	18,774	13,207	9,348
Oshkosh, Wis	22,752	15,748	12,663
Oskaloosa, Iowa	7,300	4,598	3,204
Oswego, N. Y	21,826	21,116	20,910
Ottawa, Ill	11,500	7,834	7,736
Ottawa, Kan	6,271	4,032	2,941
Ottumwa, Ia	13,996	9,004	5,214
Owensboro, Ky	9,818	6,231	3,437
Owosso, Mich	6,544	2,501	2,065
Paducah, Ky	13,024	8,036	6,866
Palmer, Mass	6,898	5,504	3,631
Paris, Tex	8,251	3,980	.....
Parkersburg, W. Va	8,389	6,582	5,546
Parsons, Kan	6,736	4,199	......
Passaic, N. J	13,027	6,532	......
Paterson, N. J	78,358	51,031	33,579
Pawtucket, R. I	27,502	19,030	6,619
Peabody, Mass	10,123	9,028	7,343
Peekskill, N.Y	10,026	6,893	6,560
Pensacola, Fla	11,751	6,845	3,347
Peoria, Ill	40,758	29,259	22,849
Perth Amboy, N. J	9,476	4,808	2,861
Peru, Ind	6,731	5,280	3,617
Petersburg, Va	23,317	21,656	18,950
Philadelphia, Pa	1,046,252	847,170	674,022
Phillipsburg, N. J	8,622	7,181	5,932
Phœnixville, Pa	8,508	6,682	5,292
Pine Bluff, Ark	9,952	3,203	2,081
Piqua, O	9,069	6,031	5,967
Pittsburg, Pa	238,473	156,389	86,076
Pittsfield, Mass	17,252	13,364	11,112
Pittston, Pa	10,295	7,472	6,760
Plainfield, N. J	11,250	8,125	5,095
Plattsmouth, Neb	8,403	4,175	1,944
Plymouth, Mass	7,292	7,093	6,238
Plymouth, Pa	9,341	6,065	2,684
Pontiac, Mich	6,243	4,509	4,867
Portland, Me	36,608	33,810	31,413
Port Huron, Mich	13,519	8,883	5,973
Portland, Ore	47,294	17,577	8,293
Portsmouth, N. H	9,811	9,690	9,211
Portsmouth, O	12,387	11,321	10,592
Portsmouth, Va	12,345	11,390	10,590
Pottstown, Pa	13,201	5,305	4,125
Port Jervis, N. Y	7,217	8,678	6,377
Pottsville, Pa	14,194	13,253	12,384
Poughkeepsie, N.Y	22,836	20,207	20,080
Princeton, Ind	6,494	2,566	1,847
Providence, R. I	122,043	104,857	68,904
Pueblo, Colo	28,128	3,217	666
Putnam, Conn	6,511	5,827	4,192
Quincy, Ill	31,478	27,268	24,052
Quincy, Mass	16,711	10,570	7,442
Racine, Wis	21,022	16,031	9,880
Rahway, N.J	7,090	6,455	6,258
Raleigh, N. C	12,798	9,265	7,790
Reading, Pa	58,926	43,278	33,930
Red Wing, Minn	6,277	5,876	4,260
Richmond, Ind	16,845	12,472	9,445
Richmond, Va	80,838	63,600	51,038
Rochester, N. Y	133,327	89,366	62,386
Rochester, N. H	7,113	5,784	4,103

Rockford, Ill	25,589	13,129	11,049
Rock Island, Ill	13,596	11,659	7,890
Rockland, Me	8,137	7,599	7,074
Rome, N. Y	14,980	12,194	11,000
Rome, Ga	6,950	3,877	3,199
Rutland, Vt	11,759	12,149	9,834
Saco, Me	6,075	6,389	5,755
Sacramento, Cal	26,272	21,420	16,283
Saginaw, Mich	46,215	10,525	7,460
Salem, Mass	30,735	27,563	24,117
Salina, Kan	6,031	3,111	918
Salt Lake City, Utah	45,025	20,768	12,854
San Antonio, Tex	38,681	20,550	12,256
Sandusky, O	19,234	15,838	13,000
San Diego, Cal	16,153	2,637	2,300
San Francisco, Cal	297,990	233,959	149,473
San Jose, Cal	18,027	12,567	9,089
Saratoga Springs, N.Y	13,124	8,421	7,516
Savannah, Ga	41,762	30,709	28,235
Schenectady, N. Y	18,392	13,655	11,026
Scranton, Pa	83,450	45,850	35,092
Seattle, Wash	43,914	3,533	1.107
Sedalia, Mo	13,994	9,561	4,560
Selma, Ala	7,626	7,529	6,484
Shamokin, Pa	14,391	8,184	2,262
Sharon, Pa	7,447	5,684	4,221
Sheboygan, Wis	16,341	7,314	5,310
Shenandoah, Pa	13,447	10,147	2,951
Sherman, Tex	7,320	6,090	1,439
Shreveport, La	11,482	8,009	4,607
Sing Sing, N. Y	10,072	6,578	4,696
Sioux City, Iowa	37,862	7,366	3,401
Sioux Falls, S. Dak	10,154	2,163	......
Somersworth, N. H	6,447	5,586	4,504
Somerville, Mass	40,117	24,933	14,685
S. Bend, Ind	21,786	13,280	7,206
S. Bethlehem, Pa	10,386	4,925	......
Southbridge, Mass	7,744	6,464	5,208
S. Chester, Pa	7,067	3,664	......
Spencer, Mass	8,730	7,466	3,952
Spokane Falls, Wash	22,626	350	......
Springfield, Ill	24,852	19,743	17,364
Springfield, Mass	44,164	33,340	26,703
Springfield, Mo	21,842	6,522	5,555
Springfield, O	32,135	20,730	12,652
Stamford, Conn	15,685	11,297	9,714
Staunton, Va	6,921	6.664	5,120
St. Charles, Mo	6,500	5,014	5,570
St. Clair, Pa	6,950	4,149	5,726
St. Cloud, Minn	6,532	2,462	2,161
Steelton, Pa	9,230	2,447	......
Steubenville, O	13,363	12,093	8,107
Stevens Point, Wis	7,888	4,449	1,810
Stillwater, Minn	11,239	9,055	4,124
St. Joseph, Mo	52,811	32,431	10,565
St. Louis, Mo	460,357	350,518	310,864
Stockton, Cal	14,376	10,282	10,066
Stoneham, Mass	6,140	4,890	4,513
Stonington, Conn	7,346	1,754	6,313
St. Paul, Minn	133,156	41,473	20,030
Streator, Ill	6,671	5,157	1,486
Superior, Wis	13,000	655	......
Syracuse, N. Y	87,877	51,792	43,051
Tacoma, Wash	35,858	1,098	73

Taunton, Mass	25,389	21,213	18,629
Terre Haute, Ind	30,287	26,042	16,103
Tiffin, O	10,978	7,879	5,648
Titusville, Pa	8,010	9,046	8,639
Topeka, Kan	31,809	15,452	5,790
Toledo, O	82,652	50,137	31,584
Trenton, N. J	58,488	29,910	22,874
Troy, N. Y	60,699	56,747	46,464
Tyler, Tex	6,908	2 423	1,750
Uniontown, Pa	6,358	3 265	2,503
Urbana, O	6,499	6,252	4,276
Utica, N. Y	44,001	33,914	28,804
Vernon, Conn	8,807	6,915	5,446
Vicksburg, Miss	13,298	11,814	12,443
Vincennes, Ind	8,815	7,680	5,440
Virginia City, Nev	6,337	10,917	7,058
Waco, Tex	13,667	7,295	3,008
Wakefield, Mass	6,970	5,547	4,135
Walla Walla, Wash	7,239	3,588	1,394
Wallingford, Conn	6,538	4,686	3,676
Waltham, Mass	18,522	11,712	9,065
Ware, Mass	7,329	4,817	4,259
Warren, O	6,086	4,428	3,457
Washington, D. C	229 296	147,293	109 199
Washington, Ind	6,052	4,323	2,901
Washington, Pa	7,045	4,292	3,571
Waterbury, Conn	28,591	17,806	10,826
Waterloo, Iowa	6,679	5,630	4,547
Watertown, Mass	7,058	5,426	[illegible]
Watertown, N. Y	14,733	10,697	[illegible]
Watertown, Wis	8,870	7,883	7 550
Waterville, Me	7,091	4,672	4,852
Waukesna, Wis	7,475	2,969	.....
Wausau, Wis	9,251	4,277	1,349
Webster, Mass	7,030	5,696	4,763
West Bay City, Mich	12,910	6,397	......
West Chester, Pa	7,965	7,046	5,630
Westfield, Mass	9,798	7 587	6,519
West Troy, N. Y	12,942	8,820	10,693
Weymouth, Mass	10,843	10,570	9,010
Wheeling, W. Va	35,052	30 737	19,280
Wichita, Kan	23,735	4 911	689
Wilkesbarre, Pa	37,651	23,339	10 174
Williamsport, Pa	27,107	18,934	16 030
Wilmington, Del	61,437	42,478	30 841
Wilmington, N.C	20 008	17,350	13,446
Windham, Conn	10,025	8 265	5 412
Winona, Minn	18 208	10 208	7,192
Winston, N. C	7,988	2 854	443
Woburn, Mass	13,491	10 931	8,560
Woonsocket, R. I	20,759	16 050	11,527
Wooster, O	6,050	5,849	5,419
Worcester, Mass	84,536	58,291	41,105
Xenia, O	8,145	7,026	6,377
Yonkers, N. Y	31 942	18 892	12,733
York, Pa	20,849	13 940	11,003
Youngstown, O	33,199	15,435	8 075
Ypsilanti, Mich	6,128	4 984	5 471
Zanesville, O	21,117	18,113	10,011

Notes of Interest.

Barnum's Museum, at the corner of Broadway and Ann street, was destroyed by fire July 13. 1865. Barnum's second museum, Broadway and Spring street, was destroyed by fire March 13, 1868.

Baseball—The distance from the home plate to the pitcher's position is 50 feet, so that must be the distance the ball is pitched. The distance from the home plate to the first base is 90 feet, and 127 feet 4 inches to second base.

Blondin walked a tight rope over the Falls of Niagara, June 30, 1859.

Brooklyn bridge was first proposed by Col. Julius W. Adams, in 1865. The act of incorporation was passed in 1866. Survey began by John Roebling in 1869. Construction began January 2, 1870. The first rope thrown across the river August 14, 1866.

The largest empire in the world is that of Great Britain, comprising 8,557,658 square miles—more than a sixth part of the land of the globe. and embracing under its rule nearly a sixth part of the population of the world.

The largest gun in the United States, mounted, is the 20-inch Rodman smooth bore at Fort Hamilton, N. Y. H. Its dimensions are as follows: Extreme length, 243.5 inches; maximum diameter, 64 inches; minimum diameter, 34 inches; length of bore in calibers, 10.50 inches. The service charge is 200 pounds of powder, and the weight of the projectile is 1,000 pounds. There is also a 12¼-inch rifle (wrought iron lined) at Sandy Hook. Weight, 89,350 pounds; extreme length, 262.8 inches; maximum diameter, 55 inches; minimum diameter, 27.55 inches; length of bore in calibers, 18.53. The gun is used for experimental purposes, principally in testing powder. Charges from 70 to 200 pounds are used. Weight of projectile, from 700 to 800 pounds.

Jumbo, the famous elephant, was bought from a wandering band of Arabs—according to Sir Samuel Baker—when four years of age. Then was brought to the Jardin des Plantes, Paris, whence he was transferred to the London Zoological Gardens, in 1866, and remained there until purchased by Barnum, Bailey & Hutchinson, in 1882. Was killed by a locomotive in Ontario, Canada, in 1885.

Maud S. was sold to Robert Bonner for $40,00, by William H. Vanderbilt, 1885.

New York, during the rebellion, furnished more soldiers than any other state. The following is the number of men furnished by the six states that furnished the largest quota: First, New York state, 445,568; Pennsylvania, 366,326; Ohio, 317,133; Illinois, 258,217; Indiana, 195,147; Massachusetts, 151,785.

The largest stake ever rowed for was $6,000, in the four-ored race for the championship between the Samuel Collyer and the Floyd T. Field, at Poughkeepsie, N. Y., July 18, 1865, and won by the Samuel Collyer. The crew of the latter were Denny Leary and the Biglin brothers, while Stevens, Wooden, Burger and Benway rowed the Floyd T. Field.

The greatest billiard match ever played in America was 2,000 points up, four carroms, for $10,000, between Phelan and Sweereiter, Detroit, Mich., on April 12, 1859. Phelan was the winner, scoring 2,001 points to his opponent's 1,994.

Supreme Court of the United States.

Chief Justice—Melville W. Fuller, Illinois, 1888.

Justices—S. J. Field	California	1863
Joseph P. Pradley	New Jersey	1870
John M. Harlan	Kentucky	1877
Horace Gray	Massachusetts	1881
Samuel Blatchford	New York	1882
L. Q. C. Lamar	Mississippi	1888
David J. Brewer	Kansas	1889
Henry D. Brown	Michigan	1890

Clerk—J. H. McKenny, D. C., 1880.

Salaries: Chief justice, $10,500; justices, $10,000; clerk, $6,000.

Marshal—J. M. Wright, Kentucky	$3.000
Reporter—J. C. B. Davis, New York	5,700

Concerning Coal and Iron—First notice of stone coal is B. C. 371.

The coal fields of England were the first practically developed.

First record of stone coal used in England was A. D. 820.

Records of regular mining in England first made in 1180

Coal first used in London in 1240.

First tax laid on coal in England in 1379.

Tax was repealed in 1831, having been taxed 400 years.

First patent for making iron with pit coal was granted to Simeon Sturtevant, in 1612, but was not successful.

Iron first made in a blast furnace with pit coal with success by a Mr. Darby, of Colebrook Dale, England, in 1713.

On Coal, Steam Heating, Etc.—In 1747 iron was made in England with pit coal, suitable for the manufacture of cannon. In 1788 the production of iron with pit coal in England was 48.300 tons; with charcoal, 13,000 tons. In 1864 the production of iron in Great Britain was 5,000,000 tons. Wooden rails in mines were used in 1777. Cast iron rails in mines were used in 1790. Wrought iron rails in mines were used in 1815. Coal gas first made use of practically in 1798.

American Coal Fields—First coal fields worked in America were the bituminous fields at Richmond, Va., discovered in 1750. This coal was used at Westham, on the James river, to make shot and shell during the war of independence. The first use of anthracite coal was in 1768–69; first used for smithing purposes in 1790; first used to burn in a common grate in 1808; first successful use of anthracite coal for the smelting of iron was in 1829, at the Pioneer furnace, at Pottsville, Pa. It had been tried on the Lehigh in 1826, but was unsuccessful. The great shaft of the Philadelphia & Reading Iron Company has been sunk to a depth of 1,569 feet from the surface to the great mammoth coal vein which attains a thickness of 25 feet, in that distance passing through no less than 15 coal seams, of which 6 are workable and have an average thickness together of 64 feet. Even then there are a number of coal seams underlying these.

How to Remove Rust—If you immerse the articles in kerosene oil and *let them* remain for some time, the rust will become *so much loosened* as to come off very easy.

***How to Make* 32 Kinds of Solder**—1. Plumber's solder: *Lead 2 parts, tin 1 part.* 2. Tinman's solder: Lead 1 part, tin

1 part. 3. Zinc solder.—Tin 1 part, lead 1 to 2 parts. 4. Pewter solder. Lead 1 part, bismuth 1 to 2 parts. 5. Spelter solder. —Equal parts copper and zinc. 6. Pewterers' soft solder.—Bismuth 2, lead 4, tin 3 parts. 7. Another.—Bismuth 1, lead 1, tin 2 parts. 8. Another pewter solder.—Tin 2 parts, lead 1 part. 9 Glazier's solder.—Tin 3 parts, lead 1 part. 10. Solder for copper.—Copper 10 parts, zinc 9 parts. 11. Yellow solder for brass or copper.—Copper 32 lbs., zinc 29 lbs., tin 1 lb. 12. Brass solder. -Copper 61.25 parts, zinc 38.75 parts. 13. Brass solder, yellow and easily fusible.—Copper 45, zinc 55 parts. 14. Brass solder, white.—Copper 57.41 parts, tin 14.60 parts, zinc 27.99 parts. 15. Another solder for copper.—Tin 2 parts, lead 1 part. When the copper is thick heat it by a naked fire, if thin use a tinned copper tool. Use muriate or chloride of zinc as a flux. The same solder will do for iron, cast iron, or steel; if the pieces are thick, heat by a naked fire or immerse in the solder. 16. Black solder. —Copper 2, zinc 3, tin 2 parts 17. Another.—Sheet brass 20 lbs., tin 6 lbs., zinc 1 lb. 18. Cold brazing without fire or lamp. —Fluoric acid 1 oz., oxy muriatic acid 1 oz., mix in a lead bottle. Put a chalk mark each side where you want to braze. This mixture will keep about 6 months in one bottle. 19. Cold soldering without fire or lamp.—Bismuth ¼ oz., quicksilver ¼ oz., block tin filings 1 oz., spirits salts 1 oz., all mixed together. 20. To solder iron to steel or either to brass.—Tin 3 parts, copper 39½ parts, zinc 7½ parts. When applied in a molten state it will firmly unite metals first named to each other. 21. Plumbers' solder.—Bismuth 1, lead 5, tin 3 parts, is a first-class composition 22. White solder for raised Britannia ware.—Tin 100 lbs., hardening 8 lbs. antimony 8 lbs. 23. Hardening for Britannia.—(To be mixed separately from the other ingredients). Copper 2 lbs., tin 1 lb. 24. Best soft solder for cast Britannia ware.—Tin 8 lbs., lead 5 lbs. 25. Bismuth solder.—Tin 1, lead 3, bismuth 3 parts. 26. Solder for brass that will stand hammering.—Brass 78.26 parts, zinc 17.41 parts, silver 4.33 parts, add a little chloride of potassium to your borax for a flux. 27. Solder for steel joints.—Silver 19 parts, copper 1 part, brass 2 parts. Melt all together. 28. Hard solder.—Copper 2 parts, zinc 1 part. Melt together. 29. Solder for brass.—Copper 3 parts, zinc 1 part, with borax. 30. Solder for copper.—Brass 6 parts, zinc 1 part, tin 1 part, melt all together well and pour out to cool. 31. Solder for platina.—Gold with borax. 32. Solder for iron.—The best solder for iron is good tough brass with a little borax.

N. B.—In soldering, the surfaces to be joined are made perfectly clean and smooth, and then covered with sal. ammoniac, resin or other flux, the solder is then applied, being melted on and *smoothed over* by a tinned soldering iron.

Soldering Fluid.—Take 2 oz. muriatic acid, add zinc till *bubbles cease to rise,* add ½ teaspoonful of sal-ammoniac.

The United States Government Tempering Secret.—The following process and mixtures, patented by Garman and Siegfried, and owned by the Steel Refining and Tempering Co., of Boston, Mass., cost the U. S. Government $10,000 for the right in their shops, and is said to impart extraordinary hardness urability to the poorest kinds of steel. Siegfried's specifica- ads as follows: "I first heat the steel to a cherry red in a smith's fire, and then cover the steel with chloride of sodium ion salt), purifying the fire also by throwing in salt. I work el in this condition, and while subjected to this treatment, t is brought into nearly its finished form. I then substitute salt a compound composed of the following ingredients, about the following proportions: One part by weight of of the following substances; chloride of sodium (salt), sul- of copper, sal-ammoniac, and sal-soda, together with ½ part ight of pure nitrate of potassa (saltpetre), said ingredients pulverized and mixed; I alternately heat the steel and treat covering with this mixture and hammering it until it is ighly refined and brought into its finished form. I then it to the fire and heat it slowly to a cherry red, and then e it into a bath composed of the following ingredients, in ntially the following proportions for the required quantity: n water, 1 gal.; alum, sal-soda, sulphate of copper, of each s.; of nitrate of potassa (saltpetre), 1 oz., and of chloride of m (salt), 6 ozs. These quantities and proportions are stated ng what I regard as practically the best, but it is manifest they may be slightly changed without departing from the ples of my invention."

w TO PETRIFY WOOD.—Gum salt, rock alum, white vine- halk and pebbles powder, of each an equal quantity. Mix ogether. If, after the ebullition is over, you throw into this any wood or porus substance, it will petrify it.

w TO CONSTRUCT AN ÆOLIAN HARP.—Make a box with op, bottom and sides of thin wood, and the ends 1½ inch , form it the same length as the width of the window in which be placed. The box should be 3 or 4 inches deep, and 6 or hes wide. In the top of the box, which acts as a sounding , make 3 circular holes about two inches in diameter, and an distance apart. Glue across the sounding board, about 2½ s from each end, 2 pieces of hard wood ¼ inch thick and h high, to serve as bridges. You must now procure from usical instrument maker twelve steel pegs, similiar to those of o-forte, and 12 small brass pins. Insert them in the follow- anner into the beech; first commence with a brass pin, then a steel peg, and so on, placing them alternately ½ in. apart number of twelve. Now for the other end, which you must ence with a steel peg, exactly opposite the brass pin at the end, then a brass pin, and so on, alternately, to the number ; by this arrangement you have a steel peg and a brass pin s opposite each other, which is done so that the pressure of rings on the instrument shall be uniform. Now string the ment with 12 first violin strings, making a loop at one end of tring, which put over the brass pins, and wind the other ends he opposite steel pegs. Tune them in unison, but do not em tight. To increase the current of air, a thin board may l about two inches above the strings, supported at each end by 2 pieces of wood. Place the instrument in a partly opened window, and to increase the draft open the opposite door.

How Sound Travels.—In dry air at 82 deg. 1,142 ft. per second, or about 775 miles per hour; in water, 4,900 ft. per second; in iron, 17,500 ft.; in copper, 10,378 feet; and in wood from 12 to 16,000 ft. per second. In water, a bell heard at 45,000 ft., could be heard in the air out of the water but 656 ft. In a balloon the barking of dogs can be heard on the ground at an elevation of 4 miles. Divers on the wreck of the Hussar frigate, 100 ft. under water, at Hell Gate, near New York, heard the paddle wheels of distant steamers hours before they hove in sight. The report of a rifle on a still day may be heard at 5,300 yds.; a military band at 5,200 yds. The fire of the English on landing in Egypt was distinctly heard 130 miles. Dr. Jamieson says he heard, during calm weather, every word of a sermon at a distance of 2 miles.

Weights of Famous Bells.—The bell of Notre Dame, Montreal, Que., weighs 28,560 lbs.; that of the City Hall, New York, 22,300 lbs.; of St. Paul's, London, 11,470; "Big Ben," Westminster, 30,350; "Great Tom," of Oxford, 18,000; St. Peter's, Rome, 18,607; Rouen, France, 40,000; St. Ivan's, Moscow, 127,830; one unhung at Moscow, 440,000, and one in China weighs 120,000 lbs.

How to Repair Cracked Bells.—The discordant tones of a cracked bell being due to the jarring of the rugged, uneven edges of the crack against each other, the best remedy that can be applied is to cut a thin slit with a toothless saw driven at a very high velocity, say 3 or 4,000 revolutions per minute, in such a manner as to cut away the opposing edges of the fracture wherever they come in contact. This will restore the original tone of the bell.

How to Test Quality of Steel.—Good tool steel, with a white heat, will fall to pieces; with bright red heat will crumble under the hammer; with middling heat may be drawn to a needle-point.

To test hardening qualities, draw under a low heat to a gradually tapered square point and plunge into cold water; if broken point will scratch glass, the quality is good.

To test tenacity, a hardened piece will be driven into cast-iron by a hardened hammer—if poor, will be crumbled. Excellence will be in proportion to tenacity in hard state. Soft steel of good quality gives a curved line fracture and uniform gray texture. Tool steel should be dull silver color, uniform, entirely free from sparkling qualities.

Aquafortis, applied to the surface of steel, produces a black spot; on iron the metal remains clean. The slightest vein of iron or steel can be readily detected by this method.

How to Destroy the Effects of Acid on Clothes.—Dampen *as soon* as possible, after exposure to the acid, with spirits *ammonia* It will destroy the effect immediately.

How to Wash Silverware.—Never use a particle of soap on *your* silverware, as it dulls the lustre, giving the article more the *appearance* of pewter than silver. When it wants cleaning, rub with a piece of soft leather and prepared chalk, the latter made into a kind of paste with pure water, for the reason that water not pure might contain gritty particles.

How to Cleanse Brushes.—The best method of cleansing watchmakers' and jewelers' brushes is to wash them out in a strong soda water. When the backs are wood, you must favor that part as much as possible; for being glued, the water may injure them.

How to Keep Fresh Meat a Week or Two in Summer.—Farmers or others living at a distance from butchers can keep fresh meat very nicely for a week or two, by putting it into sour milk, or buttermilk, placing it in a cool cellar. The bone or fat need not be removed. Rinse well when used.

How to Write Inscriptions on Metals.—Take ½ lb. of nitric acid and 1 oz. of muriatic acid. Mix, shake well together, and it is ready for use. Cover the place you wish to mark with melted beeswax; when cold, write your inscription plainly in the wax clear to the metal with a sharp instrument; then apply the mixed acids with a feather, carefully filling each letter. Let it remain from 1 to 10 minutes, according to appearance desired; then throw on water, which stops the process and removes the wax.

Rules for Accidents on Water.—When upset in a boat or thrown into the water and unable to swim, draw the breath in well; keep the mouth tight shut; do not struggle and throw the arms up, but yield quietly to the water; hold the head well up, and stretch out the hands only below the water; to throw the hands or feet up will pitch the body below the water, hands or feet up will pitch the body head down, and cause the whole person to go immediately under water. Keep the head above, and everything else under water.

Every one should learn to swim; no animal, aquatic, fowl, or reptile, requires to be taught this, for they do it naturally. Few persons exist who have not some time or other seen a bullfrog perform his masterly movements in the water, and it would detract from no one's dignity to take a few lessons from him. In learning, the beginner might sustain himself by a plank, a block of wood, an attachment composed of cork, an inflated bladder, a flying kite, or a stout cord attached to a long rod held by an assistant on the land. Learn to swim, cost what it will.

Trichina is the term applied to a minute, slender and transparent worm, scarcely 1-20th of an inch in length, which has recently been discovered to exist naturally in the muscles of swine, and is frequently transferred to the human stomach when pork is used as food. Enough of these filthy parasites have been detected in half a pound of pork to engender 30,000,000 more, the females being very prolific, each giving birth to from 60 to 100 young, and dying soon after. The young thread-like worm at first ranges freely through the stomach and intestines, remaining for a short time within the lining membrane of the intestines, causing irritation, diarrhea, and sometimes death, if present in sufficient numbers. As they become stronger, they begin to penetrate the walls of the intestines in order to effect a lodgment in the voluntary muscles.

causing intense muscular pain and severe enduring cramps, and sometimes tetanic symptoms. After 4 weeks migration they encyst themselves permanently on the muscular fibre, and begin to secrete a delicate sac which gradually becomes calcareous. In this torpid state they remain during the person's lifetime.

THE VITALITY OF SEEDS may be tested by placing almost any of the larger seeds or grains on a hot pan or griddle, when the vitality is perfect the grain will pop, or crack open with more or less noise. When the vitality is defective, or lost, it remains immovable in the vessel. A botanist's receipt for improving and fertilizing all kinds of seeds, consists in the preparation of a solution of lime, nitre and pigeon's dung in water, and therein steeping the seed. Tested on wheat, the produce of some of these grains was reported at 60, 70 and 80 stems, many of the ears 5 inches long, and 50 corns each, and none less than 40. The same botanist produced 500 plants from 1 grain, and 576,840 grains, weighing 47 lbs. Grains of wheat in different countries yield from 6, 10, 16 and even 30 to 1; Cape wheat 80 to 1. Barley yields from 50 to 120. Oats increase from 100 to 1,000. Wheat and millet seed germinate in one day, barley in 7, cabbage in 10, almond and chestnut and peaches require 12 months, and roses and filbert 24. A field of wheat buried under an avalanch for 25 years, proceeded on its growth, etc., as soon as the snow had melted. A bulbous root found in the hand of a mummy, about 2,000 years old, lately produced a plant. Potatoes planted below 3 feet do not vegetate; at ½ foot they grow quickest, and at 2 are retarded 2 or 3 months.

COMPARATIVE VALUE OF FOOD FOR HORSES.—100 lbs. of good hay is equivalent in value to 59 lbs. of oats, 57 lbs. of corn, 275 of carrots, 54 lbs. of rye or barley, 105 lbs of wheat bran, 400 lbs of green clover, 275 lbs. of green corn, 374 lbs. wheat straw, 442 lbs. of rye straw, 400 lbs. of dried corn stalks, 45 lbs. of wheat, 59 lbs. of corn, 62 lbs. of sun-flower seed, 69 lbs. of linseed cake, 195 lbs. of oat straw, 105 lbs of wheat bran; 1 lb. of oil cake is equal to 14 lbs. cabbage.

TABLE SHOWING THE AVERAGE VELOCITIES OF VARIOUS BODIES.

	Per hour.		Per sec.
A man walks……………………	3 miles	or	4 feet
Slow rivers flow……………………	3 “	or	4 “
Rapid rivers flow……………………	7 “	or	10 “
A horse trots……………………	7 “	or	10 “
A moderate winds blows……………………	7 “	or	10 “
Sailing vessels run……………………	10 “	or	14 “
Steamboats run……………………	18 “	or	26 “
A horse runs……………………	20 “	or	29 “
A storm moves……………………	36 “	or	52 “
A hurricane moves……………………	80 “	or	117 “
Sound moves……………………	743 “	or	1142 “
A rifle ball moves……………………	1000 “	or	1466 “
Light moves……………………			192,000 miles.
Electricity moves……………………			288,000 miles.

THE NEW COPYRIGHT LAW.

PASSED MARCH 4, 1891.

uthor, inventor, designer, or proprietor of any book, map,
ramatic or musical composition, engraving,, cut, print, or
aph or negative thereof, or of a painting, drawing, chromo,
statuary, and of models or designs intended to be perfected
s of the fine arts, and the executors, administrators, or
of any such person shall, upon complying with the provi-
this chapter, have the sole liberty of printing, reprinting,
ng, completing, copying, executing, finishing, and vending
e; and in the case of dramatic composition, of publicly
ing or representing it or causing it to be performed or
ted by others; and authors or their assigns shall have ex-
ight to dramatize and translate any of their works for
opyright shall have been obtained under the laws of the
States.

uthor, inventor, or designer, if he be still living, or his
r children, if he be dead, shall have the same exclusive
ntinued for the further term of fourteen years, upon re-
the title of the work or description of the article so se-
second time, and complying with all other regulations
d to original copyrights, within six months before the ex-
of the first term; and such persons shall, within two
from the date of said renewal, cause a copy of the record
to be published in one or more newspapers printed in the
States, for the space of four weeks.

rson shall be entitled to a copyright unless he shall, on or
he day of publication in this or any foreign country, de-
the office of the Librarian of Congress, or deposit in the
thin the United States, addressed to the Librarian of Con-
Washington, District of Columbia, a printed copy of the
the book, map, chart, dramatic or musical composition,
ng, cut, print, photograph, or chromo, or a description of
ting, drawing, statue, statuary, or a model or design for a
the fine arts for which he desires a copyright, nor unless
also, not later than the day of the publication thereof in
ny foreign country, deliver at the office of the Librarian
ress, at Washington, District of Columbia, or deposit in
within the United States, addressed to the Librarian of
, at *Washington*, District of Columbia, two copies of
right book, *map*, chart, dramatic or musical composi-
ving, chromo, cut, print or photograph, or in case of a

case of a book, photograph, chromo, or lithograph, the two copies of the same required to be delivered or deposited as above shall be printed from type set within the limits of the United States, or from plates made therefrom, or from negatives, or drawings on stone made within the limits of the United States, or from transfers made therefrom. During the existence of such copyright the importation into the United States of any book, chromo, lithograph, or photograph, so copyrighted, or any edition or editions thereof, or any plates of the same not made from type set, negatives or drawings on stone, made within the limits of the United States, shall be, and it is hereby prohibited, except in the cases specified in paragraphs 512 to 280 inclusive, in section 2 of the act entitled "An act to reduce the revenue and equalize the duties on imports and for other purposes," approved Oct. 1, 1890; and except in the case of persons purchasing for use and not for sale, who import, subject to the duty thereon, not more than two copies of such book at any one time, and except in the case of newspapers and magazines not containing, in whole or in part, matter copyrighted under the provisions of this act, unauthorized by the author, which are hereby exempted from prohibition of importation: Provided, nevertheless, that in the case of foreign languages, of which only translations in English are copyrighted the prohibition of importation shall apply only to the translation of the same, and the importation of the books in the original la
guage shall be permitted.

The Librarian of Congress shall receive from the persons
whom the services designated are rendered, the following fees

First. For recording the title or description of any copyri
book or article, fifty cents.

Second. For every copy under seal of such record actu
given to the person claiming the copyright, or his assigns,
cents.

Third. For recording and certifying any instrument of w
for the assignment of a copyright, one dollar.

Fourth. For every copy of an assignment, one dollar.

All fees so received shall be paid into the Treasury of the
States: Provided, that the charge for recording the title
scription of any article entered for copyright, the product
person not a citizen or resident of the United States, shal
dollar, to be paid as above into the Treasury of the Unit
to defray the expenses of lists of copyrighted articles
after provided for.

it is hereby made the duty of the Librarian of
ary of the Treasury copies of
wherein th

leted by the deposit of two copies of such book printed
set within the limits of the United States, in accord-
the provisions of this act and by the deposit of two
such other article made or produced in the United
d the Secretary of the Treasury is hereby directed to
d print, at intervals of not more than a week, cata-
such title entries for distribution to the collectors of
the United States and to the postmasters of all post-
iving foreign mails, and such weekly lists, as they are
ll be furnished to all parties desiring them, at a sum
ing five dollars per annum; and the Secretary and the
r-General are hereby empowered and required to make
e such rules and regulations as shall prevent the im-
into the United States, except upon the conditions
ified, of all articles prohibited by this act.
rietor of every copyright book or other article shall
he office of the Librarian of Congress, or deposit in the
essed to the Librarian of Congress, at Washington,
Columbia, a copy of every subsequent edition wherein
ntial changes shall be made: Provided, however, that
ions, revisions and additions made to books by foreign
eretofore published, of which new editions shall appear
ly to the taking effect of this act, shall be held and
pable of being copyrighted as above provided for in this
they form a part of the series in course of publication
this act shall take effect.

963. Every person who shall insert or impress such
vords of the same purport, in or upon any book, map.
natic or musical composition, print, cut, engraving, or
, or other article, for which he has not obtained a
shall be liable to a penalty of one hundred dollars, re-
one-half for the person who shall sue for such penalty
lf to the use of the United States.

rson who, after the recording of the title of any book
positing of two copies of such book, as provided by this
contrary to the provisions of this act, within the term
d without the consent of the proprietor of the copy-
obtained in writing, signed in presence of two or more
print, publish, dramatize, translate, or import, or
e same to be so printed, published, dramatized, trans-
nported, sell or expose to sale any copy of such book
t every copy thereof to such proprietor, and shall also
ay such damages as may be recovered in a civil ac-
proprietor in any court of competent jurisdiction.
n. after the recording of the title of any map, chart,

dramatic or musical composition, print, cut, engraving, or photograph, or chromo, or of the description of any painting, drawing, statue, statuary, or model or design intended to be perfected and executed as a work of the fine arts, as provided by this act, shall within the term limited, contrary to the provisions of this act, and without the consent of the proprietor of the copyright first obtained in writing, signed in presence of two or more witnesses, engrave, etch, work, copy, print, publish, dramatize, translate, or import, either in whole or in part, or by varying the main design with intent to evade the law, or, knowing the same to be so printed, published, dramatized, translated, or imported, shall sell or expose to sale any copy of such map or other article as aforesaid, he shall forfeit to the proprietor all the plates on which the same shall be copied, and every sheet thereof, either copied or printed, and shall further forfeit one dollar for every sheet of the same found in his possession, either printing, printed, copied, published, imported, or exposed for sale, and in case of a painting, statue, or statuary, he shall forfeit ten dollars for every copy of the same in his possession, or by him sold or exposed for sale; one-half thereof to the proprietor and the other half to the use of the United States.

Every person who shall print or publish any manuscript whatever without the consent of the author or proprietor first obtained, shall be liable to the author or proprietor for all damages occasioned by such injury.

Sec. 11. That for the purpose of this act each volume of a book
in two or more volumes, when such volumes are published sepa
rately, and the first one shall not have been issued before this ac
shall take effect, and each number of a periodical, shall be co
sidered an independent publication, subject to the form of cop
righting as above.

Sec. 12. That this act shall go into effect on the first day
July, anno Domini eighteen hundred and ninety-one.

Sec. 13. That this act shall only apply to a citizen or subje
a foreign state or nation when such foreign state or nation
mits to citizens of the United States of America the bene
copyright on substantially the same basis as its own citize
when such foreign state or nation is a party to an interna
agreement which provides for reciprocity in the granting of
right, by the terms of which agreement the United Sta
America may, at its pleasure, become a party to such agre
The existence of either of the conditions aforesaid shall
mined by the President of the United States by pro
made from time to time as the purposes of this act m

Roman money mentioned in the New Testament reduced to English and American standard:

	£	s.	d.	far.		$	cts.
A Mite...............	0	0	0	0.75	......	0	00.343
A Farthing, about....	0	0	0	1.50	......	0	00.687
A Penny, or Denarius	0	0	7	2.	......	0	13.75
A Pound, or Mina....	3	2	6	0.	......	13	75.

NOTE. — The above determinations of Scripture measures, weights, &c., are principally by the Rt. Rev. Richard, Bishop of Peterborough.

GUNTER'S CHAIN, LAND MEASUREMENT, &C.—7.92 inches constitute 1 link; 100 links 1 chain, 4 rods or poles, or 66 feet, and 80 chains 1 mile. A square chain is 16 square poles, and 10 square chains are 1 acre. Four roods are an acre, each containing 1,210 square yards, or 34,785 yards, or 94 yards 28 inches each side.

Forty poles of 30.25 square yards each is a rood, and a pole is 5½ yards each way.

An acre is 4,840 square yards, or 69 yards 1 foot 8½ inches each way; and 2 acres, or 9,680 square yds. are 98 yds. 1 ft. 2 ins. each way; and 3 acres are 120½ yards each way. A square mile, or a U. S. section of land, is 640 acres, being 1,060 yards each way; half a mile, or 880 yds. each way, is 160 acres; a quarter of a mile, or 440 yds. each way, is a park or farm of 40 acres; and a furlong, or 220 yds. each way, is 10 acres.

Any length or breadth in yards which multiplied make 4,840 is an acre; any which makes 12.10 is a rood, and 30.25 is a pole.

An English acre is a square of nearly 70 yds. each way; a Scotch of 77½ yds., and an Irish of 88½ yds.

DYNAMIC POWER OF VARIOUS KINDS OF FOOD.—One lb. of oatmeal will furnish as much power as 2 lbs. of bread and more than 3 lbs. of lean veal. One lb. butter gives a working force equal to that of 9 lbs. of potatoes, 12 lbs. of milk and more than 5 lbs. of lean beef. One lb. of lump sugar is equal in force to 2 lbs. of ham, or 8 lbs. of cabbage. The habitual use of spirituous liquors is inimical to health, and inevitably tends to shorten life. A mechanic or laboring man of average size requires, according to Moleschott, 23 ozs. of dry, solid matter daily, one-fifth nitrogenous. Food, as usually prepared, contains 50 per cent. of water, which would increase the quantity to 46 ozs., or 3 lbs. 14 ozs., with at least an equal weight of water in addition daily. The same authority indicates as healthy proportions of albuminous matter 4.587 ozs., fatty matter 2.964, carbo-hydrate 14.250, salts 1.058, total 22.859 ozs., for daily use. This quantity of food will vary greatly in the requirements of individuals engaged in sedentary employments, or of persons with weak constitutions or impaired digestion, as also whether employed in the open air or within doors, much also depending on the temperature. Preference should be given to the food which most readily yields the materials required by nature in the formation of the human frame. Beef contains about 4 lbs. of such minerals in every 100 lbs. Dried extract of beef contains 21 lbs. in each 100 lbs. Bread made from unbolted wheat flour is also very rich in such elements, much more so than superfine flour.

he common use of Graham bread for dyspepsia and other ts. The analysis of Liebig, Johnston, and others give in rts, the following proportions of nutritious elements, viz.: n corn 12.30, barley 14.00, wheat 14.06, oats 19.91. A fish s well adapted to sustain intellectual, or brain labor. What uired may be best known from the fact that a human body hing 154 lbs. contains, on a rough estimate, of water 14 gals. sisting of oxygen 111 lbs., of hydrogen 14 lbs.), carbon 21 lbs., ogen 3 lbs., 8 ozs., calcicum 2 lbs., sodium 2¼ ozs., phosphorus lbs., potassium ½ oz., sulphur 2 ozs. 219 grs., fluorine 2 ozs., orine 2 oz. 47 grs., iron 100 grs., magnesium 12 grs., silicon 2 grs. ter death, the human body is by gradual decay slowly resolved to these its component parts, which elements are again used in e complex and wonderful laboratory of nature, to vivify the ountless forms of vegetable life. These in their turn fulfill their ppointed law by yielding up their substance for the formation of other bodies. What a suggestive comment on mortal ambition to witness the present inhabitants of Egypt engaged in what they consider the lucrative commerce of quarrying out the bones of the ancient inhabitants from the catacombs where they have been entombed for thousands of years and transporting them by the ship-load to England in order to fertilize the crops which are destined to assist in forming the bone and sinew of the British nation!

Practical Dietetic Economies.—The following table, compiled from various authorities, is eminently and practically useful, presenting as it does at a glance the available percentage of nutritive elements contained in the leading staples used as human food.

Raw Cucumbers.........	2	Raw Beef....................	26
" Melons............	3	" Grapes..................	27
Boiled Turnips...........	4½	" Plums..................	29
Milk.....................	7	Broiled Mutton..............	30
Cabbage.................	7½	Oatmeal Porridge...........	75
Currants.................	10	Rye Bread..................	79
Whipped Eggs...........	13	Boiled Beans................	87
Beets....................	14	Boiled Rice.................	88
Apples..................	16	Barley Bread................	88
Peaches.................	20	Wheat Bread................	90
Boiled Codfish...........	21	Baked Corn Bread...........	91
Broiled Venison..........	22	Boiled Barley................	9
Potatoes.................	22½	Butter.......................	9
Fried Veal...............	24	Boiled Peas..................	9
Roast Pork..............	24	Raw Oils.....................	
Roast Poultry...........	26		

The figures present a diversity, but the general results are fix and invariable, presenting to the economist the relative amount nutriment supplied by each kind of food. It will be seen that the m wholesome and nutritious articles, as oatmeal, flour, peas, be *rice, crushed* wheat, corn bread, etc., are vastly superior to be *supplying effective* ability to labor, besides being obtainable at a *one-third the price* of the latter. It will be seen that the nutri ipplied by beef is 26 per cent., while the cereals yield from 75 tc 5 per cent.; while there is no room for dispute as to the comparave healthiness of the different kinds of diet. The bounding cirilation, good digestion and mental activity enjoyed by day, gether with the sound sleep accorded by night, to the man who efers plain to luxurious living, and vegetable to animal food, are rtainly well worth striving for. If a fair percentage of wholeme ripe fruit be used with the above noted diet, its value and the ijoyment of using it will be greatly enhanced. After all that can said, pro and con, touching a vegetable diet, certain are we that e average man who limits himself to a well-selected regimen of getable food will, accidents aside, go through life with a clear ind in a healthy body, will sleep sounder, and come nearer the loted age of three-score and ten, have a better digestion, and ive fewer headaches than the man who indulges in roast beef with e usual variations.

AGE AND GROWTH OF TREES.—An oak tree in 3 years grows ft. 10½ ins. A larch 3 ft. 7½ ins., at 70 years it is full grown, id a tree of 70 years was 102 ft. high and 12 ft. girth, containing 3 cubic ft. Another of 80 years was 90 ft. and 17 ft. and 300 ibic feet. An elm tree in 3 years grows 8 ft. 3 in. A beech, 1 ft. in. A poplar, 6 ft. A willow, 9 ft. 3 in. An elm is full grown 190 years and it lives 500 or 600. Ash is full grown in 100 and ik in 200. The mahogany is full grown in 200 years to a vast ze. A Polish oak 40 ft. round had 600 circles An oak in orsetshire in 1755 was 68 ft. round, 2 near Cranborne Lodge are ft. and 36 ft. There are yews from 10 to 20 ft. diam., whose age from 1,000 to 2,000 years. A lime in the Crisons is 51 ft. round id about 600 years old. An elm in the Pays de Vaud is 18 ft. am. and 360 years old. The African baobab is the patriarch of ring organizations, one specimen by its circles is estimated at 700 years old by Adamson and Humboldt The trunk is but 12 15 ft. to the branches, and often 75 ft. round A cypress in exico is 120 ft. round and is estimated by De Candolle to be der than Adamson's baobab. The cypress of Montezuma is 41 et round. Strabo wrote of a cypress in Persia as being 2,500 ars old. The largest tree in Mexico is 127 ft. round and 120 gh, with branches of 30 ft. A chestnut tree on Mount Etna is 6 ft. round close to the ground and 5 of its branches resemble eat trees. De Candolle says there are oaks in France 1,500 ars old. The Wallace oak near Paisley is nearly 800 years old. ie yew trees at Fountain's Abbey are about 1,200 years old. iat at Crowhurst, 1,500. That at Fortingal, above 2,000. That Braburn, 2,500 to 3,000. Ivys reach 500 or 600 years. The rch the same. The lime 600 or 700 years. The trunk of a walit tree 12 ft. in diam., hollowed out, and furnished as a sittingom, was imported from America and exhibited in London The ink was 80 ft. high, without a branch, and the entire height 150 , the bark 12 ins. thick and the branches from 3 to 4 ft. in diam. ie California pine is from 190 to 200 ft. high and from 20 to 60 ft. *diam. The forests in watered*, tropical countries are formed of *es from 100 to 200 ft.* high, which grow to the water's edge of rivers, presenting a solid and impenetrable barrier of trunks 10 or 12 ft. in diam. The dragon tree is in girth from 40 to 100 ft. and 50 or 60 feet high, and a misosa in South America is described whose head is 600 ft. round.

The duration of well seasoned wood, when kept dry, is very great, as beams still exist which are known to be nearly 1,100 years old. Piles driven by the Romans, and used in the formation of bridges prior to the Christian era, have been examined of late, and found to be perfectly sound after an immersion of nearly 2,000 years.

Russian Way of Stopping Holes in Ships.—In that country there has lately been invented and successfully applied, a ready means for stopping holes made in ships by collision or otherwise. It consists of a plaster made of two rectangular sheets of canvas sewed together, bordered with a rope, and containing a waterproof material. A sounding-line has to be passed under the keel, and brought up on the other side, then the plaster can be lowered to the hole and made fast. Several cases are cited in which this invention has been employed with advantage, and a large number of Russian ships are now furnished with such plasters. It is proposed that men be specially trained and ready for the maneuvring of the apparatus.

How to Raise the Body of a Drowned Person.—In a recent
failure to recover the body of a drowned person in New Jersey, a
French-Canadian undertook the job, and proceeded as follows:
Having supplied himself with some glass gallon-jars and a quan-
tity of unslaked lime he went in a boat to the place where the mar
was seen to go down. One of the jars was filled half full of lime
then filled up with water and tightly corked. It was then droppe
into the water and soon after exploded at the bottom of the riv
with a loud report. After the third trial, each time at a differ
place, the body rose to the surface and was secured.

How to Get Rid of Rats.—Get a piece of lead pipe and us
as a funnel to introduce about 1½ ozs. of sulphide of potass
into any outside holes tenanted by rats, not to be used in d
ings. To get rid of mice use tartar emetic mingled with any f
ite food, they will eat, sicken, and take their leave.

Valuable Suggestions to Clerks and Workingmen.—
consider time wasted that is spent in learning rudimen
acquiring a knowledge of any art or handicraft the great
ficulty is experienced at the beginning, because our wo
possesses little or nothing of interest. Our first lessons in
or music, or with tools, are very simple; indeed so simple
that we are disposed to undervalue their importance. Th
tion is to skip a few pages and begin further on in the b
such a course is fatal to success. To learn principles
is to succeed. Be content to learn one thing at a time,
be to push a plane square and true, or draw a straight
ever you learn, learn it absolutely, without possibl
This will enable you to advance steadily, step by ste
and some day you will wonder why you have

ance the geniuses who once seemed so far in advance of

your heart upon what you have in hand. Valuable knowl- s acquired only by intense devotion. You must give your mind to whatever you undertake, otherwise you fail, or suc- ıdifferently, which is but little better than failure.

'n, therefore, to estimate properly the value of what is called time. There is entirely too much of this in the world. Do stake our meaning. Rest is necessary and play is well in :e, but young men who hope to do something in life must pect to play one-third of their time.

le you resolve to acquire a thorough knowledge of your art, ally as anxious to know something beyond it. A craftsman to be ashamed of himself who knows nothing but the use of ls. Having the time to acquire it, be careful to properly te the value of knowledge. Remember of what use it will 'ou in ten thousand instances as you go along in life, and be scientious in learning rudiments here as elsewhere. Learn I correctly, to write a good plain hand, and to punctuate entences.

ıot dress beyond your means; never spend your last dollar, for food to keep yourself or some one else from starving. ill always feel better to keep a little money in your pocket. earliest possible opportunity save up a few dollars and he amount in a savings bank. It will serve as a magnet to other money that might be foolishly spent.

as soon as you can command the means, buy a piece of l. Do not wait until you have saved enough to pay all but begin by paying one-third or one-quarter. Do not be to go in debt for land, for it increases in value.

s A LITTLE.—Every man who is obliged to work for his liv- ɔuld make a point to lay up a little money for that "rainy which we are all liable to encounter when least expected. :st way to do this is to open an account with a savings bank. ulated money is always safe; it is always ready to use when l. Scrape together five dollars, make your deposit, receive ank book, and then resolve to deposit a given sum, small ı it be, once a month, or once a week, according to circum- s. Nobody knows without trying it, how easy a thing it is : money when an account with a bank has been opened. uch an account a man feels a desire to enlarge his deposit. s him lessons in frugality and economy, weans him from of extravagance, and is the very best guard in the world t intemperance, dissipation and vice. Refer to page 277 for showing the time required by money to double itself when at interest.

BOLIC MEANING OF COLORS.—White was the emblem of eligious purity, innocence, faith, joy and life. In the judge, :ates integrity; in the sick, humility; in the woman, chastity. . *the ruby, signifies* fire, divine love, heat of the creative *and royalty.* *White* and red roses express love and wis- *The red color of the* blood has its origin in the action of the *hich corresponds to* [illegible] In a bad sense

Blue, or the sapphire, expresses heaven, the firmament, truth from a celestial origin, constancy and fidelity.

Yellow, or gold, is the symbol of the sun, of the goodness of God, of marriage and faithfulness. In a bad sense yellow signifies inconstancy, jealousy and deceit.

Green, the emerald, is the color of the spring, of hope, particularly of the hope of immortality and of victory, as the color of the laurel and palm.

Violet, the amethyst, signifies love and truth, or passion and suffering. Purple and scarlet signify things good and true from a celestial origin.

Black corresponds to despair, darkness, earthliness, mourning, negation, wickedness and death.

Durability of a Horse.—A horse will travel 400 yards in 4½ minutes at a walk, 400 yds. in 2 minutes at a trot, and 400 yds. in 1 minute at a gallop. The usual work of a horse is taken at 22,500 lbs. raised 1 foot per minute, for 8 hours per day. A horse will carry 250 lbs. 25 miles per day of 8 hours. An average draught-horse will draw 1,600 lbs. 23 miles per day on a level road, weight of wagon included. The average weight of a horse is 1,000 lbs.; his strength is equal to that of 5 men. In a horse mill moving at 3 feet per second, track 25 feet diameter, he exerts with the machine the power of 4½ horses. The greatest amount a horse can pull in a horizontal line is 900 lbs.; but he can only do this momentarily, in continued exertion, probably half of this is the limit. He attains his growth in 5 years, will live 25, average 16 years. A horse will live 25 days on water, without solid food, 17 days without eating or drinking, but only 5 days on solid food without drinking.

A cart drawn by horses over an ordinary road will travel 1.1 mil
per hour of trip. A 4-horse team will haul from 25 to 36 cubic f
of lime stone at each load. The time expended in loading, unlo
ing, etc., including delays, averages 35 minutes per trip. The
of loading and unloading a cart, using a horse cram at the qua
and unloading by hand, when labor is $1.25 per day, and a h
75 cents, is 25 cents per perch=24.75 cubic feet. The work
by an animal is greatest when the velocity with which he mo
⅛ of the greatest with which he can move when not impede
the force then exerted .45 of the utmost force the animal ca
at a dead pull.

Comparative Cost of Freight by Water and Ra
has been proved by actual test that a single tow-boat ca
port at one trip from the Ohio to New Orleans 29,000 ton
loaded in barges. Estimating in this way the boat an
worked by a few men, carries as much freight to its dest
3,000 cars and 100 locomotives, manned by 600 men, c
port.

Cost of a Pennsylvania Railroad Passenger
iled cost of constructing one first-class Standard Pa
ltoona shops of the Pennsylvania R. R.,
The principal items are as follow

....	$1,263 94
ion of Fuel and s	28 61
:t Poplar	86 80
:t Ash.........	127 08
:t Pine	20 90
:t Yellow Pine.	70 50
:t Oak	10 00
:t Hickory.....	13 50
:t Mich. Pine..	49 00
:t Cherry......	16 00
:t Maple veneer	24 14
irs Wheels and xles...........	332 85
airs Passenger ar Trucks.....	533 62
llons Varnish..	52 34
s. Glue	14 33
s. Iron	87 75
s. Castings	16 99
:rews..........	51 88
as Regulator id Guage......	25 25
vo-Light Chan-eliers..........	50 72
as Tanks	84 00

1 Air Brake, complete	131 79
57 Sash Balances	44 61
61 Lights Glasses	65 83
2 Stoves.............	77 56
25 Sets Seat Fixtures.	50 50
3 Bronze Lamps.....	13 50
2 Bronze Door Locks	15 20
Butts and Hinges..	15 58
13 Basket Racks......	77 35
12 Sash Levers	42 00
61 Bronze Window Lifts	24 40
61 Window Fasteners.	16 47
238 Sheets Tin	41 44
273 lbs. Galvanized Iron	25 31
96 yards Scarlet Plush	228 87
44 yards Green Plush.	109 99
61 yards Sheeting	10 30
243 lbs. Hair...........	72 95
12 Springs............	22 96
12 Spiral Elliptic Springs	20 29
1 Head Lining.......	80 63
2 packets Gold Leaf.	14 58
Various small items	261 44
	$4,423.75

SHOWING THE NUMBER OF DAYS FROM ANY DAY IN ONE MONTH TO THE SAME DAY IN ANOTHER.

To	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
'............	365	31	59	90	120	151	181	212	243	273	304	334
y............	334	365	28	59	89	120	150	181	212	242	273	303
....	306	337	365	31	61	92	122	153	184	214	245	275
....	275	306	334	365	30	61	91	122	153	183	214	244
....	245	276	304	335	365	31	61	92	123	153	184	214
....	214	245	273	304	334	365	30	61	92	122	153	183
....	184	215	243	274	304	335	365	31	62	92	123	153
....	153	184	212	243	273	304	334	365	31	61	92	122
ber..........	122	153	181	212	242	273	303	334	365	30	61	91
'............	92	123	151	182	212	243	273	304	335	365	31	61
ber	61	92	120	151	181	212	242	273	304	334	365	30
ber	31	62	90	121	151	182	212	243	274	304	335	365

ANATION.—To find the number of days from January 20 to , follow the horizontal line opposite January until you reach umn headed by December, when you will find 334, repre- *the required* number of days, and so on with the other *During leap year,* if February enters into the calculation, *day to the result.*

Cost of Articles by the Piece, from 1 to 1 Dozen.

12 cost	$1 00	$1 25	$1 50	$1 75	$2 00	$2 25	$2 50
11 cost	92	1 15	1 38	1 60	1 83	2 06	2 29
10 cost	83	1 04	1 25	1 46	1 67	1 88	2 08
9 cost	75	94	1 13	1 29	1 50	1 69	1 88
8 cost	67	83	1 00	1 17	1 33	1 50	1 67
7 cost	58	73	88	1 02	1 17	1 31	1 46
6 cost	50	63	75	88	1 00	1 13	1 25
5 cost	42	52	63	73	83	94	1 04
4 cost	33	42	50	56	67	75	83
3 cost	25	31	38	44	50	56	63
2 cost	17	21	25	29	33	38	42
1 cost	8⅓	10⅙	12½	14⅝	16⅔	18¾	21⅙

12 cost	$2 75	$3 00	$3 25	$3 50	$3 75	$4 00	$4 25
11 cost	2 52	2 75	2 98	3 21	3 44	3 67	3 89
10 cost	2 29	2 50	2 73	2 92	3 13	3 33	3 54
9 cost	2 06	2 25	2 44	2 69	2 81	3 00	3 19
8 cost	1 83	2 00	2 17	2 33	2 56	2 67	2 83
7 cost	1 60	1 75	1 90	2 04	2 19	2 33	2 48
6 cost	1 38	1 50	1 63	1 75	1 88	2 00	2 13
5 cost	1 15	1 25	1 36	1 46	1 56	1 67	1 77
4 cost	92	1 00	1 09	1 17	1 25	1 33	1 42
3 cost	69	75	82	88	94	1 00	1 06
2 cost	46	50	55	58	63	67	71
1 cost	23	25	28	29¼	31¼	33⅓	35⅜

12 cost	$4 50	$4 75	$5 00	$5 25	$5 50	$5 75	$6 00
11 cost	4 13	4 23	4 58	4 81	5 04	5 27	5 50
10 cost	3 75	3 96	4 17	4 38	4 58	4 79	5 00
9 cost	3 38	3 56	3 75	3 94	4 13	4 31	4 50
8 cost	3 00	3 17	3 33	3 50	3 67	3 83	4 00
7 cost	2 63	2 77	2 92	3 06	3 21	3 35	3 50
6 cost	2 25	2 34	2 50	2 63	2 75	2 87	3 00
5 cost	1 88	1 98	2 08	2 19	2 29	2 40	2 50
4 cost	1 50	1 58	1 67	1 75	1 83	1 92	2 00
3 cost	1 13	1 19	1 25	1 31	1 38	1 44	1 50
2 cost	75	79	83	88	92	96	1 00
1 cost	37½	39⅝	41⅔	43¾	46	48	50

12 cost	$6 25	$6 50	$6 75	$7 00	$7 25	$7 50	$7 76
11 cost	5 73	5 96	6 19	6 42	6 65	6 88	7 11
10 cost	5 25	5 42	5 63	5 83	6 04	6 25	6 46
9 cost	4 69	4 88	5 06	5 25	5 44	5 63	5 81
8 cost	4 17	4 33	4 50	4 67	4 93	5 00	5 17
7 cost	3 65	3 79	3 94	4 08	4 23	4 38	4 52
6 cost	3 13	3 25	3 38	3 50	3 63	3 75	3 88
5 cost	2 60	2 71	2 81	2 92	3 02	3 13	3 23
4 cost	2 08	2 17	2 25	2 33	2 42	2 50	2 58
3 cost	1 56	1 63	1 69	1 75	1 81	1 88	1 94
2 cost	1 94	1 08	1 13	1 17	1 21	1 25	1 29
1 cost	52⅛	54⅙	56¼	58⅓	60⅜	62½	64⅔

Country.	Standard.	Monetary Unit.	Value in U.S. gold.	Coins.
Argentine Republic	Gold and silver.	Peso	$0.96,5	Gold—Argentine ($4.82,4) and ½ argentine. Silver—Peso and divisions.
Austria - Hungary	Silver	Florin	.42,0	Gold—4 florins ($1.92,9) 8 florins ($3.85,8), ducat ($2.28,7) and 4 ducats ($9.15,8. Silver—1 and 2 florins.
Belgium	Gold and silver.	Franc	.19,3	Gold—10 and 20 francs. Silver—5 francs.
Bolivia	Silver	Boliviano	.85,0	Silver—Boliviano and divisions.
Brazil	Gold	Milreis	.54,6	Gold—5, 10 and 20 milreis. Silver—½, 1 and 2 milreis.
British Possessions, N. A. *	Gold	Dollar	1.00	
Central American States	Silver	Peso	.85,0	Silver—Peso and divisions.
Chili	Gold and silver.	Peso	.91,2	Gold—Escudo ($1.82,4), doubloon ($4.56,1) and condor (9.12,8). Silver--Peso and divisions.
China	Silver	Tael { Shanghai Haikwan (cust'ms)	1.25,6 1.40	
Colombia	Silver	Peso	.85,0	Gold—Condor($9.64,7) and double condor. Silver—Peso.
Cuba	Gold and silver.	Peso	.92,6	Gold—Doubloon $(5,01.7). Silver—Peso.
Denmark	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Ecuador	Silver	Sucre	.85,0	Gold—Condor ($9.64,7) and double condor. Silver—Sucre and divisions.
Egypt	Gold	Pound (100 piasters)	4.94,3	Gold—Pound (100 piastres), 50, 20, 10, 5 piastres. Silver—1, 2, 5, 10, 20 piastres.
France	Gold and silver.	Franc	.19,3	Gold—5, 10. 20, 50 and 100 f. Silver—5 f.

Values of Foreign Coin.—*Continued.*

Country.	Standard.	Monetary unit.	Value in U.S. gold.	Coins.
German Empire	Gold	Mark	.23,8	Gold—5, 10 and 20 marks.
Great Britain	Gold	Pound sterling	4.86,6½	Gold—Sovereign (£ sterling) and ½ sov.
Greece	Gold and silver.	Drachma	.19,3	Gold—5, 10, 20, 50 and 100 drachmas. Silver—5 drachmas.
Hayti	Gold and silver.	Gourde	.96,5	Silver—Gourde.
India	Silver	Rupee	.40,4	Gold—Mohur ($7.10,5). Silver—Rupee and divisions.
Italy	Gold and silver.	Lira	.19,3	Gold—5,10,20,50,100 liras. Silver—5 liras.
Japan	†Gold and silver	Yen { Gold	.99,7	Gold—1, 2, 5, 10 and 20 yen.
		Yen { Silver	.91,7	Silver—Yen.
Liberia	Gold	Dollar	1.00	
Mexico	Silver	Dollar	.92,3	Gold—Dollar (0.98,3), 2½, 5, 10, 20 dollars. Silver—Dollar (or peso) and divisions.
Netherlands	Gold and silver.	Florin	.40,2	Gold—10 florins. Silver—½, 1, 2½ florins.
Newfoundland	Gold	Dollar	1.01,4	Gold—2 dollars (2.02,7 +).
Norway	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Peru	Silver	Sol	.85 0	Silver—Sol and divisions.
Portugal	Gold	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Russia	Silver	Rouble	.68,0	Gold—Imperial ($7.71,8), ½ imperial ($3.86,0). Silver—¼, ½ and 1 rouble.
Spain	Gold and silver.	Peseta	.19,3	Gold—25 pesetas. Silver—5 pesetas.
Sweden	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Switzerland	Gold and silver.	Franc	.19,3	Gold—5, 10, 20, 50 and 100 francs. Silver—5 francs.
Tripoli	Silver	Mahbub of 20 piasters	.76,7	

Gold and Silver Produced in the United States.

The following estimate of the gold and silver produced in the United States, since the discovery of gold in California, is compiled from the official reports of the Director of the United States Mint:

Year.	Gold.	Silver.	Total.
1849.........	$40,000,000	$50,000	$40,050,000
1850.........	50,000,000	50,000	50,050,000
1851.........	55,000,000	50,000	55,050,000
1852.........	60,000,000	50,000	60,050,000
1853.........	65,000,000	50,000	65,050,000
1854.........	60,000,000	50,000	60,050,000
1855	55,000,000	50,000	55,050,000
1856.........	55,000,000	50,000	55,050,000
1857.........	55,000,000	50,000	55,050,000
1858.	50,000,000	500,000	50,500,000
1859.........	50,000,000	100,000	50,100,000
1860.........	46,000,000	150,000	46,150,000
1861.........	43,000,000	2,000,000	45,000,000
1862.........	39,200,000	4,500,000	43,700,000
1863.........	40,000,000	8,500,000	48,500,000
1864.........	46,100,000	11,000,000	57,100,000
1865.........	53,225,000	11,250,000	64,475,000
1866.........	53,500,000	10,000,000	63,500,000
1867.........	51,725,000	13,500,000	65,225,000
1868.........	48,000,000	12,000,000	60,000,000
1869.........	49,500,000	12,000,000	61,500,000
1870.........	50,000,000	16,000,000	66,000,000
1871.........	43,500,000	23,000,000	66,500,000
1872.........	36,000,000	28,750,000	64,750,000
1873.........	36,000,000	35,750,000	71,750,000
1874.........	33,490,902	37,324,594	70,815,496
1875.........	33,467,656	31,727,560	65,195,416
1876.........	39,429,166	38,783,016	78,712,182
1877.........	46,897,390	39,793,573	86,690,963

LUMBER AND LOG MEASUREMENT—(Cont'ed)

Length, Feet.	Diam. 19	Diam. 20	Diam. 21	Diam. 22	Diam. 23	Diam. 24	Diam. 25	Diam. 26	Diam. 27
10	140	160	180	202	225	250	275	302	330
11	154	176	198	223	248	275	302	333	363
12	169	192	217	243	271	300	331	363	397
13	183	208	235	263	293	325	358	393	430
14	197	224	253	283	313	350	386	433	463
15	211	240	271	303	336	375	413	453	496
16	225	256	289	324	359	400	441	484	530
17	239	272	307	344	383	425	468	514	563
18	253	288	325	364	406	450	496	544	596
19	267	304	343	384	429	475	523	574	630
20	280	320	361	404	452	500	550	605	661
21	293	336	379	425	473	525	579	635	693
22	309	352	397	445	496	550	605	665	726
23	323	368	415	465	519	575	632	695	760
24	338	384	433	486	541	600	662	726	794
25	351	400	451	506	562	625	689	756	827
26	366	416	370	526	586	650	716	786	860
27	380	432	488	546	606	675	744	826	893
28	394	448	506	566	626	700	772	866	926
29	408	464	524	586	649	725	799	886	959
30	422	480	542	606	672	750	826	906	992
31	436	496	560	627	695	775	854	937	1026
32	450	512	578	648	718	800	882	968	1060
33	464	528	596	668	742	825	909	998	1093
34	478	544	614	688	766	850	936	1028	1126
35	492	560	632	708	789	875	964	1058	1159
36	506	576	650	728	812	900	992	1088	1192

A volcano, now extinct, near Mount D'Orr, in the interior of France, emitted a flow of lava at a comparatively recent period, which filled up the channel of a river in its course. The water rose, passing over the impediment in its course, and has, up to this time, cut a channel 50 feet deep through the lava bed. From the remains of an old Roman bridge known to have been constructed about 2,000 years ago, it appears that the erosion of the water into the lava has been considerably less than six inches during that period, which would indicate that it has required over 200,000 years to cut the channel to its present depth of 50 feet.

LUMBER AND LOG MEASUREMENT—(Cont'd).

Length, Feet.	Diam. 28	Diam. 29	Diam. 30	Diam. 31	Diam. 32	Diam. 33	Diam. 34	Diam. 35	Diam. 36
10	360	391	422	456	490	526	562	601	640
11	396	430	465	502	539	578	619	661	704
12	432	469	507	547	588	631	675	721	768
13	468	508	549	592	627	684	731	781	832
14	504	547	561	638	686	736	781	841	896
15	540	586	633	683	735	789	844	901	960
16	576	625	676	729	784	842	900	961	1024
17	612	664	718	774	833	895	956	1021	1088
18	648	703	761	820	882	946	1012	1081	1152
19	684	742	803	865	931	999	1069	1141	1216
20	720	782	845	912	980	1052	1125	1202	1280
21	756	820	887	957	1029	1103	1181	1261	1344
22	792	860	930	1004	1078	1156	1238	1322	1408
23	828	898	972	1049	1127	1209	1295	1381	1472
24	864	938	1014	1094	1176	1262	1350	1442	1536
25	900	977	1056	1139	1225	1315	1406	1501	1600
26	936	1016	1098	1184	1274	1368	1462	1562	1664
27	972	1055	1140	1230	1323	1420	1518	1622	1728
28	1008	1094	1182	1276	1372	1472	1574	1682	1792
29	1044	1133	1224	1321	1421	1525	1631	1742	1856
30	1080	1172	1266	1366	1470	1578	1688	1802	1920
31	1116	1211	1309	1412	1519	1631	1744	1862	1984
32	1152	1250	1352	1458	1568	1684	1800	1922	2048
33	1188	1289	1394	1503	1617	1737	1856	1982	2112
34	1224	1328	1436	1548	1666	1790	1912	2042	2176
35	1260	1367	1479	1594	1715	1841	1968	2102	2240
36	1296	1406	1522	1640	1764	1892	2024	2162	2304

No doubt exists that the Falls of Niagara were at one time **precipitated into an ocean** over Queenston Heights, and Sir **Charles** Lyell computes that a period of at least 30,000 to 35,000 **years have** elapsed while the falls have been cutting their way **through seven** miles of rock to their present position; the retrograde **movement** is still going on, slowly but surely, every day.

LUMBER MEASUREMENT TABLE.

Square timber and scantling brought down to 1 inch board measure. *Example:* To find the number of feet in a beam 6x10 and 24 feet in length, consult the table, and opposite 24 and under 6x10 you will find 120, the correct number of feet.

Feet.	DIMENSIONS EACH WAY IN INCHES.								
	2x4	2x5	2x6	2x7	2x8	3x3	3x4	3x5	3x6
6	4.	5.	6.	7.	8.	5.6	6.	7.6	9.
7	4.8	5.10	7.	8.2	9.4	5.3	7.	8.9	10.6
8	5 4	6.8	8	9.4	10 8	6.	8.	10.	12.
9	6.	7.6	9.	10.6	12.	6.9	9.	11.3	13.6
10	6.8	8.4	10.	11.8	13.5	7.6	10.	12.6	15.
11	7.4	9.2	11.	12.10	14.8	8.3	11.	13.9	16.6
12	8.	10.	12.	14	16.	9.	12.	15.	18.
13	8.8	10.10	13	15.2	17.4	9.9	13.	16.3	19.6
14	9.4	11.8	14.	16.4	18.8	10.6	14.	17.6	21.
15	10.	12.6	15	17.6	20.	11.3	15.	18.9	22.6
16	10.8	13.4	16.	18.8	21.4	12.	16.	20.	24.
17	11.4	14.2	17.	19.10	22.8	12.9	17.	21.3	25.6
18	12.	15.	18.	21.	24.	13.6	18.	22.6	27.
19	12.8	15.10	19.	22.2	25.4	14.3	19.	23.9	28.6
20	13.4	16.8	20.	23.4	26.8	15.	20.	25.	30.
21	14.	17.6	21.	24.6	28.	15.9	21.	26.3	31.6
22	14.8	18.4	22.	25.8	29.4	16.6	22.	27.6	33.
23	15.4	19.2	23.	26.10	30.8	17.3	23.	28.9	34.6
24	16.	20.	24.	28.	32.	18.	24.	30.	36.
25	16.8	20.10	25.	29.2	33.4	18.9	25.	31.3	37.6
30	20.	25.	30.	35.	40.	22.6	30.	37.6	45.
34	22.8	28.4	34.	39.3	45.4	25.6	34.	42.6	51.
40	26.8	33.4	40.	46.8	53.4	30.	40.	50.	60.
42	28.	35.	42.	49.	56.	31.6	42.	52.6	63.
44	29.4	36 8	44.	51.4	58.1	33.	44.	55.	66.

LUMBER MEASUREMENT TABLE—(Continued).

Feet.	DIMENSIONS EACH WAY IN INCHES.								
	3x7	3x8	4x4	4x5	4x6	4x7	4x8	4x9	5x5
6....	10.6	12.	8.	10.	12.	14.	16.	18.	12.6
7....	12.3	14.	9.4	11.8	14.	16.4	18.8	21.	14.7
8....	14.	16.	10.	13.4	16.	18.8	21.4	24.	16.8
9....	15.9	18	12.	15.	18.	21.	24.	27.	18.9
10....	17.6	20.	13.4	16.8	20.	23.4	26.8	30.	20.10
11....	19.3	22.	14.8	18.4	22.	25.8	29.4	33.	22.11
12....	21.	24.	16.	20.	24.	28.	32.	36.	25.
13....	22.9	26.	17.4	21.8	26.	30.4	34.8	39.	27.1
14....	24.6	28.	18.8	23.4	28.	32.8	37.4	42.	29.2
15....	26.3	30.	20.0	25.	30	35.	40.	45.	31.3
16....	28.	32.	21.4	26.8	32.	37.4	42.8	48.	33.4
17....	29.9	34.	22.8	28.4	34.	39 8	45.4	51.	35.5
18....	31.6	36.	24.	30.	36.	42.	48.	54.	37.6
19....	33.3	38.	24.4	31.8	38.	44.4	50.8	57.	39.7
20....	35.	40.	26.8	33.4	40.	46.8	53.4	60.	41.8
21....	36.9	42.	28.	35.	42.	49.	56.	63.	43.9
22....	38.6	44.	29.4	36.8	44.	51.4	58.8	66.	45.10
23....	40.3	46.	30 8	38.4	46.	53.8	61.4	69.	47.11
24...	42.	48.	32.	40.	48.	56.	64.	72.	50.
25....	43.9	50.	33 4	41.8	50.	58.4	66.8	75.	52.1
30....	52.6	60.	40.	50.	60.	70.	80.	90.	62.6
34....	59.6	68.	45.4	58.8	68.	79.4	90.8	102.	70.10
40....	70.	80.	53.	66.8	80.	93.4	106.8	120.	83.4
42....	73.6	84.	56.	70.	84.	98.	112.	126.	87.6
44....	77.	88.	58.8	73.6	88.	102.8	117.4	132.	90.8

During the glacial period, in which the climate of Greenland extended as far south as New York, the world was covered with immense moving masses of ice, which in their progress from north to south moved rocks hundred of miles, and remodeled the topography of various countries. The effects of these glacial movements were the pulverization of the various rocks, thus forming sand from sandstone, calcareous soil from limestone, and clay *from granite and gneiss*, transforming barren rock into fertile soil.

LUMBER MEASUREMENT TABLE—(Continued).

Feet.	DIMENSIONS EACH WAY IN INCHES.							
	5x6	5x7	5x8	6x6	6x7	6x8	6x9	6x10
6.....	15.	17.6	20.	18.	21.	24.	27.	30.
7.....	17.6	20.5	23.4	21.	24.6	28.	31.6	35.
8.....	20.	23.4	26.8	24.	28.	32.	36.	40.
9.....	22.6	26.3	30.	27.	31.6	36.	40.6	45.
10.....	25.	29.2	33.4	30.	35.	40.	45.	50.
11.....	27.6	32.1	36.8	33.	38.6	44.	49.6	55.
12.....	30.	35.	40.	36.	42.	48.	54.	60.
13.....	32.6	37.11	43.4	39.	45.6	52.	58.6	65.
14.....	35.	40.10	46.8	42.	49.	56.	63.	70
15.....	37.6	43.9	50.	45.	52.6	60.	67.6	75.
16.....	40.	46.8	53.4	48.	56.	64.	72.	80.
17.....	42.6	49.7	56.8	51.	59.6	68.	76.6	85.
18.....	45.	52.6	60.	54.	63.	72.	81.	90.
19.....	47.6	55.5	63.4	57.	66.6	76.	85.6	95.
20.....	50.	58.4	66.8	60.	70.	80.	90.	100.
21.....	52.6	61.3	70.	63.	73.6	84.	94.6	105.
22.....	55.	64.2	73.4	66.	77.	88.	99.	110.
23.....	57.6	67.1	76.8	69.	80.6	92	103.6	115.
24.....	60.	70.	80.	72.	84.	96.	108.	120.
25.....	62.6	72.11	83.4	75.	87.6	100.	112.6	125.
30.....	75.	87.6	100.	90.	105.	120.	135.	150.
34.....	85.	99.2	113.4	102.	119.	136.	153.	170.
40.....	100.	116.8	133.4	120.	140.	160.	180.	200.
42.....	105.	122.6	140.	126.	147.	168.	189.	210.
44.....	110.	128.4	146.8	132.	154.	176.	198.	220.

Oh, dearest of my heart,
Of life itself you form a part.
I think, I dream, I pray for thee,
***Just* as I hope you do for me.**

LUMBER MEASUREMENT AT SIGHT.

ONE INCH BOARD MEASURE.

For Plank, double or treble the product, as may be required. If a board or plank is longer or wider than the dimensions here given, add two suitable numbers together. The left-hand column contains the length in feet; the width in inches heads each column.

Feet Long.	6 in W		7 in W		8 in W		9 in W		10 in W		11 in W		12 in W	
	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.
8...	4	0	4	8	5	4	6	0	6	8	7	4	8	0
9...	4	6	5	3	6	0	6	9	7	6	8	3	9	0
10...	5	0	5	10	6	8	7	6	8	4	9	2	10	0
11...	5	6	6	5	7	4	8	3	9	2	10	1	11	0
12...	6	0	7	0	8	0	9	0	10	0	11	0	12	0
13...	6	6	7	7	8	8	9	9	10	10	11	11	13	0
14...	7	0	8	2	9	4	10	6	11	8	12	10	14	0
15...	7	6	8	9	10	0	11	3	12	6	13	9	15	0
16...	8	0	9	4	10	8	12	0	13	4	14	8	16	0
17...	8	6	9	11	11	4	12	9	14	2	15	7	17	0
18...	9	0	10	6	12	0	13	6	15	0	16	6	18	0
19...	9	6	11	1	12	8	14	3	15	10	17	5	[illegible]	[illegible]
20...	10	0	11	8	13	4	15	0	16	8	18	4	20	0
21...	10	6	12	3	14	0	15	9	17	6	19	3	21	0
22...	11	0	12	10	14	8	16	6	18	4	20	2	22	0
23...	11	6	13	5	15	4	17	3	19	2	21	1	23	0
24...	12	0	14	0	16	0	18	0	20	0	22	0	24	0
25...	12	6	14	7	16	8	18	9	20	10	22	11	25	0
26...	13	0	15	2	17	4	19	6	21	8	23	10	26	0
27...	13	6	15	9	18	0	20	3	22	6	24	9	27	0
28...	14	0	16	4	18	8	21	0	23	4	25	8	28	0
29...	14	6	16	11	19	4	21	9	24	2	26	7	29	0
30...	15	0	17	6	20	0	22	6	25	0	27	6	30	0
31...	15	6	18	1	20	8	23	3	25	10	28	5	31	0
32...	16	0	18	8	21	4	24	0	26	8	29	4	32	0
33...	16	6	19	3	22	0	24	9	27	6	30	3	33	0
34...	17	0	19	10	22	8	25	6	28	4	31	2	34	0
35...	17	6	20	5	23	4	26	3	29	2	32	1	35	0
36...	18	0	21	0	24	0	27	0	30	0	33	0	36	0

LUMBER MEASUREMENT AT SIGHT.

(*Continued.*)

FEET LONG.	13 in W		14 in W		15 in W		16 in W		17 in W		18 in W		19 in W	
	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.
8...	8	8	9	4	10	0	10	8	11	4	12	0	12	8
9...	9	9	10	6	11	3	12	0	12	9	13	6	14	3
10...	10	10	11	8	12	6	13	4	14	2	15	0	15	10
11...	11	11	12	10	13	9	14	8	15	7	16	6	17	5
12...	13	0	14	0	15	0	16	0	17	0	18	0	19	0
13...	14	1	15	2	16	3	17	4	18	5	19	6	20	7
14...	15	2	16	4	17	6	18	8	19	10	21	0	22	2
15...	16	3	17	6	18	9	20	0	21	3	22	6	23	9
16...	17	4	18	8	20	0	21	4	22	8	24	0	25	4
17...	18	5	19	10	21	3	22	8	24	1	25	6	26	11
18...	19	6	21	0	22	6	24	0	25	6	27	0	28	6
19...	20	7	22	2	23	9	25	4	26	11	28	6	30	1
20...	21	8	23	4	25	0	26	8	28	4	30	0	31	8
21...	22	9	24	6	26	3	28	0	29	9	31	6	33	3
22...	23	10	25	8	27	6	29	4	31	2	33	0	34	10
23...	24	11	26	10	28	9	30	8	32	7	34	6	36	5
24...	26	0	28	0	30	0	32	0	34	0	36	0	38	0
25...	27	1	29	2	31	3	33	4	35	5	37	6	39	7
26...	28	2	30	4	32	6	34	8	36	10	39	0	41	2
27...	29	3	31	6	33	9	36	0	38	3	40	6	42	9
28...	30	4	32	8	35	0	37	4	39	8	42	0	44	4
29...	31	5	33	10	36	3	38	8	41	1	43	6	45	11
30...	32	6	35	0	37	6	40	0	42	6	45	0	47	6
31...	33	7	36	2	38	9	41	6	44	0	46	6	49	0
32...	34	8	37	4	40	0	42	6	45	6	48	0	50	6
33...	35	9	38	6	41	3	44	0	46	6	49	6	52	0
34...	36	10	39	8	42	6	45	6	48	0	51	0	54	0
35...	37	11	40	10	43	9	46	6	49	6	52	6	55	6
36...	39	0	42	0	45	0	48	0	51	0	54	0	57	0

Value of Alaska to the United States.

Alaska cost the United States $7,000,000, and the fur seal company has already paid our government over $8,000,000 for the privileges it enjoys of taking seals from the territorial waters.

LUMBER MEASUREMENT AT SIGHT.

(*Continued.*)

FEET LONG.	20 in W		21 in W		22 in W		23 in W		24 in W		25 in W	
	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.
8.........	13	4	14	0	14	8	15	4	16	0	16	8
9.........	15	0	15	9	16	6	17	3	18	0	18	9
10.........	16	8	17	6	18	4	19	2	20	0	20	10
11.........	18	4	19	3	20	2	21	1	22	0	22	11
12.........	20	0	21	0	22	0	23	0	24	0	25	0
13.........	21	8	22	9	23	10	24	11	26	0	27	1
14.........	23	4	24	6	25	8	26	10	28	0	29	2
15.........	25	0	26	3	27	6	28	9	30	0	31	3
16.........	26	8	28	0	29	4	30	8	32	0	33	4
17.........	28	4	29	9	31	2	32	7	34	0	35	5
18.........	30	0	31	6	33	0	34	6	36	0	37	6
19.........	31	8	33	3	34	10	36	5	38	0	39	7
20.........	33	4	35	0	36	8	38	4	40	0	41	8
21.........	35	0	36	9	38	6	40	3	42	0	43	9
22.........	36	8	38	6	40	4	42	2	44	0	45	10
23.........	38	4	40	3	42	2	44	1	46	0	47	11
24.........	40	0	42	0	44	0	46	0	48	0	50	0
25.........	41	8	43	9	45	10	47	11	50	0	52	1
26.........	43	4	45	6	47	8	49	10	52	0	54	2
27.........	45	0	47	3	49	6	51	9	54	0	56	3
28.........	46	8	49	0	51	4	53	8	56	0	58	4
29.........	48	4	50	9	53	2	55	7	58	0	60	5
30.........	50	0	51	6	55	0	57	6	60	0	62	6
31.........	51	6	54	0	57	0	59	6	62	0	64	6
32.........	53	6	56	0	58	6	61	6	64	0	66	6
33.........	55	0	57	6	60	6	63	0	66	0	68	4
34.........	56	6	59	6	62	6	65	0	68	0	70	6
35.........	58	6	61	0	64	0	67	0	70	0	73	0
36.........	60	0	63	0	66	0	69	0	72	0	75	0

The Highest Railroad in the United States.

The highest railroad in the United States is the Denver & Rio *Grande, Marshall* Pass, 10,853 feet.

LUMBER MEASUREMENT TABLE.

Square Timber and Scantling—Measurement at Sight. Dimensions in inches head each column, and the length will be found in the left-hand column. If the required dimensions cannot be found in the table, add two lengths or breadths together, or take part of some length or breadth, as the case may require.

FEET.	DIMENSIONS EACH WAY IN INCHES.								
	6.11	6.12	7.7	7.8	7.9	7.10	7.11	7.12	8.8
6	33.	36.	24. 6	28.	31.6	35.	38. 6	42.	32.
7	38.6	42.	28. 7	32.8	36.9	40.10	41.11	49.	37.4
8	44.	48.	32. 8	37.4	42.	46. 8	55. 4	56.	42.8
9	49.6	54.	36. 9	42.	47.3	52. 6	57. 9	63.	48.
10	55.	60.	40.10	46.8	52.6	58. 4	64. 2	70.	53.4
11	60.6	66.	40.11	51.4	57.9	64. 2	70. 7	77.	58.8
12	66.	72.	49.	56.	63.	70.	77.	84.	64.
13	71.6	78.	53. 1	60.8	68.3	75.10	83. 5	91.	69.4
14	77.	84.	57. 2	65.4	73.6	81. 8	89.10	98.	74.8
15	82.6	90.	61. 3	70.	78.9	87. 6	96. 3	105.	80.
16	88.	96.	64. 4	74.8	84.	93. 4	102. 8	112.	85.4
17	93.6	102.	69. 5	79.4	89.3	99. 2	109. 1	119.	90.8
18	99.	108.	73. 6	84.	94.6	105.	115. 6	126.	96.
19	104.6	114.	77. 7	88.8	99.9	110.10	121.11	133.	101.4
20	110.	120.	81. 8	93.4	105.	116. 8	128. 4	140.	106.8
21	115.6	126.	85. 9	98.	110 3	122. 6	134. 9	147.	112.
22	121.	132.	89.10	102.8	115.6	128. 5	141. 2	154.	117.4
23	126.6	138.	93.11	107.4	120.9	134. 2	147. 7	161.	122.8
24	132.	144.	98.	112.	126.	140.	154.	168.	128.
26	143.	156.	106.2	121.4	136.6	151. 8	166.10	182.	138.8
28	154.	168.	114.4	130.8	147.	163.	179. 8	196.	148.8
30	165.	180.	122.6	140.	157.6	175.	192. 6	210.	160.
32	176.	192.	128.8	149.4	168.	186. 8	205. 4	224.	170.8

LUMBER MEASUREMENT TABLE.

(Continued.)

FEET.	DIMENSIONS EACH WAY IN INCHES.							
	8.9	8.10	8.11	8.12	9.9	9.10	9.11	9.12
6........	36.	40.	44.	48.	40.6	45.	49.6	54.
7........	42.	46.8	51.4	56.	47.3	52.6	57.9	63.
8........	48.	53.4	58.8	64.	54.	60.	66.	72.
9........	54.	60.	66.	72.	60.9	67.6	74.3	81.
10........	60.	66.8	73.4	80.	67.6	75.	82.6	90.
11........	66.	73.4	80.8	88.	74.3	82.6	90.9	99.
12........	72.	80.	88.	96.	81.	90.	99.	108.
13........	78.	86.8	95.4	104.	87.9	97.6	107.3	117.
14........	84.	93.4	102.8	112.	94.6	105.	115.6	126.
15........	90.	100.	110.	120.	101.3	112.6	123.9	135.
16........	96.	106.8	117.4	128.	108.	120.	132.	144.
17........	102.	113.4	124.8	136.	114.9	127.6	140.3	153.
18........	108.	120.	132.	144.	121.6	135.	148.6	162.
19........	114.	126.8	139.4	152.	128.3	142.6	156.9	171.
20........	120.	133.4	146.8	160.	135.	150.	165.	180.
21........	126.	140.	154.	168.	141.9	157.6	173.3	189.
22........	132.	146.8	161.4	176.	148.6	165.	181.6	198.
23........	138.	153.4	168.8	184.	155.3	172.6	189.9	207.
24........	144.	160.	176.	192.	162.	180.	198.	216.
26........	156.	173.4	190.8	208.	175.6	195.2	214.6	234.
28........	168.	186.8	205.4	224.	189.	210.	231.	252.
30........	180.	200.	220.	240.	202.6	225.	247.6	270.
32........	192.	213.8	234.8	256.	216.	240.	264.	288.

Strength of Ice of Various Thicknesses.

Ice two inches thick will bear men to walk on.

Ice four inches thick will bear horses and riders.

Ice six inches thick will bear teams with moderate loads.

Ice eight inches thick will bear teams with very heavy *loads*

Ice ten inches thick will sustain a pressure of 1,000 *pounds per* square foot.

LUMBER MEASUREMENT TABLE.

(*Continued.*)

Feet	Dimensions Each Way in Inches.							
	10.10	10.11	10.12	11.11	11.12	12.12	12.13	12.14
6...	50.	55.	60.	60.6	66.	72.	78.	84.
7...	58.4	64. 2	70.	70.7	77.	84.	91.	98.
8...	66.8	73. 4	80.	80.8	88.	96.	104.	112.
9...	75.	86. 6	90.	90.9	99.	108.	117.	126.
10...	83.4	91. 8	100.	100.10	110.	120.	130.	140.
11...	91.8	100.10	110.	110.11	121.	132.	143.	154.
12...	100.	110.	120.	121.	132.	144.	156.	168.
13...	108.4	119. 2	130.	131.1	143.	156.	169.	182.
14...	116.8	128. 4	140.	141.2	154.	168.	182.	196.
15...	125.	137. 6	150.	151.3	165.	180.	195.	210.
16...	133.4	146. 8	160.	161.4	176.	192.	208.	224.
17...	141.8	155.10	170.	171.5	187	204.	221	238
18...	150.	165.	180.	181.6	198	216.	234.	252.
19...	158.4	174. 2	190.	191.7	209.	228.	247.	266.
20...	166.8	183. 4	200.	201.8	220.	240.	260.	280.
21...	175.	192. 6	210.	211.9	231.	252.	273.	294.
22...	183.4	201. 8	220.	221.10	242.	264.	286.	308.
23...	191.8	210.10	230.	231.11	253.	276.	299.	322.
24...	200.	220.	240.	242.	264.	288.	312.	336.
26...	216.8	238. 4	260.	262.2	286.	312.	338.	364.
28...	233.8	256. 8	280.	282.4	308.	336.	364.	392.
30...	250.	275. 6	300.	302.6	330.	370.	390.	420.
32...	266.8	293. 4	320	322.8	352.	384.	416.	448.

The Savannah was the first steam-propelled vessel that crossed the Atlantic. She was American built, 380 tons burden, and in 1819 sailed first to Savannah from New York, thence direct to Liverpool, where she arrived in eighteen days, seven of which she used steam. From *Liverpool she* proceeded to Copenhagen, and to St. Petersburg.

Timber Measurement Table,

wing the cubical contents (fractions of feet omitted) of round logs, masts, spars, etc. Length of log is shown in left-hand column. Diameter is shown at the head of column. If the desired dimensions are not shown, double some numbers.

L. ft.	10	11	12	13	14	15	16	17	18	19
8...	4	5	6	7	8	10	11	12	14	16
9...	5	6	7	8	9	11	12	14	16	18
10...	5	7	8	9	10	12	14	16	18	20
11...	6	7	8	10	12	13	16	17	19	22
12...	6	8	9	11	13	15	17	19	21	24
13...	7	9	10	12	14	16	18	20	23	26
14...	7	9	11	13	15	17	19	22	25	28
15...	8	10	12	14	16	18	21	23	26	30
16...	9	11	12	14	17	20	22	25	28	32
17...	9	11	13	16	18	21	24	27	30	33
18...	10	12	14	16	19	22	25	28	32	35
19...	10	13	15	17	21	23	27	30	33	37
20...	11	13	16	18	21	25	28	31	35	39
21...	11	14	16	19	22	26	29	33	37	41
22...	12	15	17	20	23	27	31	35	39	43
23...	12	16	18	21	24	28	32	36	41	45
24...	13	16	19	22	26	30	34	38	42	47
25...	14	17	20	23	27	31	35	39	44	49
26...	14	17	20	24	28	32	36	41	46	51
27...	15	18	21	25	29	33	38	42	48	53
28...	15	18	22	26	30	35	39	44	49	55
29...	16	19	23	27	31	36	41	45	51	57
30...	16	20	24	28	32	37	42	47	53	59
31...	17	20	24	29	33	38	43	48	55	6
32...	17	21	25	29	34	40	45	50	57	6
33...	18	22	26	30	35	41	46	52	58	6
34...	19	22	27	31	36	42	48	53	60	6
35...	19	23	28	32	37	43	49	55	62	[illegible]
36...	20	24	28	33	39	44	50	57	64	

TIMBER MEASUREMENT TABLE—(Continued).

L. Ft.	20	21	22	23	24	25	26	27	28
8	17	19	21	23	25	27	29	32	34
9	20	22	24	26	28	31	33	36	38
10	22	24	26	29	31	34	37	40	43
11	24	26	29	32	35	37	41	43	47
12	26	29	32	34	38	41	44	47	51
13	28	31	34	37	41	44	48	51	56
14	31	34	37	40	44	48	52	55	60
15	33	36	40	43	47	51	55	59	64
16	35	38	42	46	50	55	59	63	68
17	37	41	45	49	53	58	63	68	73
18	39	43	48	52	57	61	66	72	77
19	41	45	50	55	60	65	70	75	81
20	44	48	53	58	63	68	74	79	85
21	46	50	55	61	66	71	77	83	90
22	48	53	58	64	69	75	81	87	94
23	50	55	61	66	72	78	85	91	98
24	52	58	63	69	75	82	88	95	102
25	54	60	66	72	79	85	92	99	107
26	57	63	69	75	82	89	96	103	111
27	59	65	71	78	85	92	99	107	115
28	61	67	74	81	88	95	103	111	120
29	63	70	77	84	91	99	107	115	124
30	65	72	79	86	94	102	110	119	128
31	68	75	82	89	98	106	114	123	132
32	70	77	85	92	100	109	118	127	137
33	72	79	87	95	104	112	121	130	141
34	74	82	90	98	107	116	125	135	145
35	76	84	93	101	110	119	129	139	149
36	79	86	95	104	113	123	133	143	154

Greatest Known Depth of the Ocean.

The greatest depth which has been ascertained by sounding is 25,720 feet, or 4,620 fathoms. The average *depth between* 60 degrees north and 60 degrees south is *almost three* miles.

TIMBER MEASUREMENT TABLE—(Continued).

L. Ft.	29	30	31	32	33	34	35	36	37
8	37	39	42	45	48	50	53	57	60
9	41	44	47	50	53	57	60	64	67
10	46	49	52	56	59	63	67	71	75
11	50	53	57	61	65	69	73	77	82
12	55	58	62	67	71	76	80	85	90
13	60	63	68	72	77	82	87	92	97
14	64	68	73	78	83	88	94	99	105
15	69	73	78	84	89	95	100	106	112
16	73	78	83	89	95	101	107	113	114
17	78	83	89	95	101	107	114	121	127
18	82	88	94	100	106	114	120	128	134
19	87	93	99	106	112	120	127	135	142
20	91	98	105	112	118	126	134	142	149
21	96	103	111	117	124	132	140	149	157
22	101	109	116	123	130	139	147	156	164
23	105	113	121	128	136	145	154	163	172
24	111	118	127	134	143	151	160	170	179
25	116	123	131	139	149	158	167	178	187
26	120	128	137	145	154	164	174	185	194
27	125	133	142	151	160	170	180	192	202
28	129	136	147	156	166	177	187	198	209
29	134	143	153	162	172	183	194	206	217
30	138	148	158	168	177	189	200	213	224
31	143	152	163	173	182	195	207	220	232
32	148	157	169	178	188	202	214	227	239
33	152	162	174	184	194	208	220	234	247
34	157	167	179	190	200	214	227	241	254
35	161	172	182	196	205	220	234	248	261
36	166	177	190	201	212	227	240	255	269

The following shows weight required to tear asunder bars one inch square of the following material.

Oak, 5⅙ tons; Fir, 5¼ tons; Cast Iron, 7¾ tons; Wrought Iron, 10 tons; Wrought Copper, 15 tons; *English Bar Iron*, 25 tons; American Iron, 37½ tons; *Blistered Steel*, 59½ tons.

Logs Reduced to Running Board Measure. Logs Reduced to One Inch Board Measure.

If the log is longer than is contained in the table, take any two lengths.

The first column on the left gives the length of the log in feet, The figures under D denote the diameters of the logs in inches. Fractional parts of inches are not given.

The diameter of timber is usually taken 20 feet from the butt. All logs short of 20 feet, take the diameter at the top or small end.

To find the number of feet of boards which a log will produce when sawed, take the length of feet in the first column on the left hand, and the diameter at the top of the page in inches.

Suppose a log 12 feet long and 24 inches in diameter. In the left hand column is the length, and opposite 12 under 24 is 300, the number of feet of boards in a log of that length and diameter.

Feet Long.	D. 12	D. 13	D. 14	D. 15	D. 16	D. 17	D. 18	D. 19	D. 20	D. 21	D. 22	D. 23	D. 24
10..	54	66	76	93	104	107	137	154	179	194	210	237	256
11..	59	72	83	102	114	131	151	169	196	213	231	261	270
12..	64	78	90	111	124	143	164	184	213	232	252	285	300
13..	69	84	97	120	134	154	177	199	231	251	273	308	327
14..	74	90	104	129	144	166	191	214	249	270	293	332	350
15..	79	96	111	138	154	177	204	229	266	289	314	355	376
16..	84	102	118	146	164	189	217	244	284	308	335	379	401
17..	89	108	126	155	173	200	231	259	301	327	356	402	426
18..	94	114	133	164	183	212	244	274	319	346	377	426	451
19..	99	121	140	173	193	223	257	289	336	365	398	449	477
20..	104	127	147	182	203	236	271	304	354	384	419	473	501
21..	109	133	154	191	213	247	284	319	371	403	440	497	527
22..	114	139	161	200	223	259	297	334	389	422	461	520	552
23..	119	145	168	209	233	270	311	349	407	441	481	542	568
24..	124	151	176	218	243	282	325	364	424	460	502	568	613
25..	129	157	183	227	253	293	337	379	442	479	523	591	628
26..	134	163	190	236	263	305	350	394	459	498	544	615	653
27..	139	169	197	245	273	316	363	409	477	517	565	630	678
28..	144	175	204	254	283	328	376	424	494	536	586	663	703
29..	149	181	211	263	293	339	389	439	512	555	607	687	728
30..	154	187	218	272	303	351	402	454	529	574	628	711	753
31..	159	193	225	281	313	362	415	469	547	593	649	735	778

If we're right we can't be hurt by the truth, and if we ain't right *we ought to be hurt* righteously.

You show me a man who keeps the Sabbath day holy an' I'll *show you a man that's* a Christian all the week.

LOGS REDUCED TO RUNNING BOARD MEASURE, ETC.—*Continued.*

Feet Long.	D. 25	D. 26	D. 27	D. 28	D. 29	D. 30	D. 31	D. 32	D. 33	D. 34	D. 35	D. 36
10...	283	309	339	359	377	407	440	456	486	496	543	573
11...	311	340	374	396	415	447	484	502	535	546	598	630
12...	340	371	408	432	453	489	528	548	584	596	653	688
13...	369	404	442	469	491	530	572	594	633	646	708	746
14...	397	435	476	505	529	571	618	640	682	696	762	803
15...	426	465	511	541	567	612	662	686	731	746	817	861
16...	455	496	545	578	605	653	706	732	780	796	872	919
17...	483	527	579	614	643	694	751	778	829	846	927	976
18...	512	558	613	650	681	735	795	824	878	896	981	1034
19...	541	590	647	688	719	776	839	870	927	946	1036	1092
20...	569	621	681	724	757	817	884	916	976	996	1091	1148
21...	598	652	716	760	796	859	928	962	1025	1046	1146	1206
22...	627	684	750	796	834	900	972	1008	1074	1096	1200	1264
23...	655	715	784	833	872	941	1017	1054	1123	1146	1255	1318
24...	684	746	818	889	910	982	1061	1100	1172	1196	1310	1376
25...	713	777	853	906	948	1023	1105	1146	1221	2246	1365	1434
26...	742	808	887	942	986	1064	1149	1192	1270	1296	1420	1492
27...	771	839	921	970	1024	1105	1193	1238	1319	1346	1475	1550
28...	800	870	955	1015	1062	1146	1237	1284	1368	1396	1530	1608
29...	829	901	989	1052	1100	1187	1281	1330	1417	1446	1585	1666
30...	858	932	1023	1088	1138	1228	1325	1376	1466	1496	1640	1724
31...	887	963	1057	1125	1176	1269	1369	1422	1515	1546	1695	1782

Stock Brokers' Technicalities.

A BULL is one who operates to depress the value of stocks, that he may buy for a rise.

A BEAR is one who sells stocks for future delivery, which he does not own at the time of sale.

A CORNER is when the Bears cannot buy or borrow the stock to deliver in fulfillment of their contracts.

OVERLOADED is when the Bulls cannot take and pay for the stock they have purchased.

SHORT is when a person or party sells stocks when they have none, and expect to buy or borrow in time to deliver.

LONG is when a person or party has a plentiful supply of stocks.

A POOL or RING is a combination formed to control prices.

A broker is said to CARRY stocks for his customer when he has bought and is holding it for his account.

A WASH is a pretended sale by special agreement between buyer and seller, for the purpose of getting a quotation reported.

A PUT AND CALL is when a person gives so much per cent. for the *option of buying or* selling so much stock on a certain day, at a *price fixed the day the option is given.*

Board and Plank Measurement at Sight.

This table gives the Sq. Ft. and In. in Board from 6 to 25 inches wide, and from 8 to 36 feet long. If a board be longer than 36 ft., unite two numbers. Thus, if a board is 40 ft. long and 16 in. wide, add 30 and 10 and you have 53 ft. 4 in. For 2 in. plank double the product.

Feet Long.	6 in. W.		7 in. W.		8 in. W.		9 in. W.		10 in. W.		11 in. W.		12 in. W.		13 in. W.		14 in. W.		15 in. W.	
	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.
8......	4	0	4	8	5	4	6	[illegible]	6	8	7	4	8	0	8	8	9	4	10	0
9......	4	6	5	3	6	0	6	[illegible]	7	6	8	3	9	0	9	9	10	6	11	3
10......	5	0	5	10	6	8	7	6	8	4	9	2	10	0	10	10	11	8	12	6
11......	5	6	6	5	7	4	8	3	9	2	10	1	11	0	11	11	12	10	12	9
12......	6	0	7	0	8	0	9	0	10	0	11	0	12	0	13	0	14	0	15	0
13......	6	6	7	7	8	8	9	9	10	10	11	11	13	0	14	1	15	2	16	3
14......	7	0	8	2	9	4	10	6	11	8	12	10	14	0	15	2	16	4	17	6
15......	7	6	8	9	10	0	11	3	12	6	13	9	15	0	16	3	17	6	18	9
16......	8	0	9	4	10	8	12	0	13	4	14	8	16	0	17	4	18	8	20	0
17......	8	6	9	11	11	4	12	9	14	2	15	7	17	0	18	5	19	10	21	3
18......	9	0	10	6	12	0	13	6	15	0	16	6	18	0	19	6	21	0	22	6
19......	9	6	11	1	12	8	14	3	15	10	17	5	19	0	20	7	22	2	23	9
20......	10	0	11	8	13	4	15	0	16	8	18	4	20	0	21	8	23	4	25	0
21......	10	6	12	3	14	0	15	9	17	6	19	3	21	0	22	9	24	6	26	3
22......	11	0	12	10	14	8	16	6	18	4	20	2	22	0	23	10	25	8	27	6
23......	11	6	13	5	15	4	17	3	19	2	21	1	23	0	24	11	26	10	28	9
24......	12	0	14	0	16	0	18	0	20	0	22	0	24	0	26	0	28	0	30	0
25......	12	6	14	7	16	8	18	9	20	10	22	11	25	0	27	1	29	2	31	3
26......	13	0	15	2	17	4	19	6	21	8	23	10	26	0	28	2	30	4	32	6
27......	13	6	15	9	18	0	20	3	22	6	24	9	27	0	29	3	31	6	33	9
28......	14	0	16	4	18	8	21	0	23	4	25	8	28	0	30	4	32	8	35	0
29......	14	6	16	11	19	4	21	9	24	2	26	7	29	0	31	5	33	10	36	3
30......	15	0	17	6	20	0	22	6	25	0	27	6	30	0	32	6	35	0	37	6
31......	15	6	18	1	20	8	23	3	25	10	28	5	31	0	33	7	36	2	38	9
32......	16	0	18	8	21	4	24	0	26	8	29	4	32	0	34	8	37	4	40	0
33......	16	6	19	3	22	0	24	9	27	6	30	3	33	0	35	9	38	6	41	3
34......	17	0	19	10	22	8	25	6	28	4	31	2	34	0	36	10	39	8	42	6
35......	17	6	20	5	23	4	26	3	29	2	32	1	35	0	37	11	40	10	43	9
36......	18	0	1	0	24	0	27	0	30	0	33	0	36	0	39	0	42	0	45	0

The infidelity that hurts is the infidelity of the man who makes out that he's on God's side, and then won't live up.

Find me a man preparing himself to hear the gospel and I can *show you a man* that is going to be benefited by the gospel.

BOARD AND PLANK MEASUREMENT.—*Continued.*

Feet Long.	16 in. W.		17 in. W.		18 in. W.		19 in. W.		20 in. W.		21 in. W.		22 in. W.		23 in. W.		24 in. W.		25 in. W.	
	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.
8......	10	8	11	4	12	0	12	8	13	4	14	0	14	8	15	4	16	0	16	8
9......	12	0	12	9	13	6	14	3	15	0	15	9	16	6	17	3	18	0	18	9
10......	13	4	14	2	15	0	13	10	16	8	17	6	18	4	19	2	20	0	20	10
11......	14	8	15	7	16	6	17	5	18	4	19	3	20	2	21	1	22	0	22	11
12......	16	0	17	0	18	0	19	0	20	0	21	0	22	0	23	0	24	0	25	0
13......	17	4	18	5	19	6	20	7	21	8	22	9	23	10	24	11	26	0	27	1
14......	18	8	19	10	21	0	22	2	23	4	24	6	25	8	26	10	28	0	29	2
15......	20	0	21	3	22	6	23	9	25	0	26	3	27	6	28	9	30	0	31	3
16......	21	4	22	8	24	0	25	4	26	8	28	0	29	4	30	8	32	0	33	4
17......	22	8	24	1	25	6	26	11	28	4	29	9	31	2	32	7	34	0	35	5
18......	24	0	25	6	27	0	28	6	30	0	31	6	33	0	34	6	36	0	37	6
19......	25	4	26	11	28	6	30	1	31	8	33	3	34	10	36	5	38	0	39	7
20......	26	8	28	4	30	0	31	8	33	4	35	0	36	8	38	4	40	0	41	8
21......	28	0	29	9	31	6	33	3	35	0	36	9	38	6	40	3	42	0	43	9
22......	29	4	31	2	33	0	34	10	36	8	38	6	40	4	42	2	44	0	45	10
23......	30	8	32	7	34	6	36	5	38	4	40	3	42	2	34	1	46	0	47	11
24......	33	0	34	0	36	0	38	0	40	0	42	0	44	0	46	4	48	0	50	0
25......	34	4	35	5	37	6	39	7	41	8	43	9	45	10	47	11	50	0	52	1
26......	35	8	36	10	39	0	41	2	43	4	45	6	47	8	49	10	52	0	54	2
27......	36	0	38	3	40	6	42	9	45	0	47	3	49	6	51	9	54	0	56	3
28......	37	4	39	8	42	0	44	4	46	8	49	0	51	4	53	8	56	0	58	4
29......	38	8	41	1	43	6	45	11	48	4	50	9	53	2	55	7	58	0	60	5
30......	40	0	42	6	45	0	47	6	50	0	51	6	55	0	57	6	60	0	62	6

Famous Destructive Fires.

New York, Dec., 1835—over five hundred buildings and $20,000,000 worth of property destroyed; Sept. 6, 1839—$10,000,000 worth of property destroyed. Pittsburg, April 10, 1845—one thousand buildings burnt; loss, $6,000,000. St. Louis, May 4, 1851—a large portion of the city burned; loss, $11,000,000. Portland, Me., July 4, 1866—almost entirely destroyed; loss, $15,000,000. Chicago, Ill., Oct. 8-9, 1871—over 2,000 acres burnt over; estimated loss, $195,000,000; July 14, 1874, another great fire destroyed $4,000,000 worth of property. Boston, Mass., Nov. 9, 1872—nearly 450 buildings destroyed; loss, over $73,000,000. St. John, N. B., June 21, 1877 loss, $12,500,000.

WOOD AND BARK MEASUREMENT AT SIGHT.

The Cord of Wood or Bark is 8 feet long, 4 feet high, and 4 feet wide. as established by law in most of the States and the Dominion of Canada. If the Wood is 8 feet long, double the product. Fractions of feet are omitted in the Table. Price will be found heading the columns, number of feet in the left-hand column.

Ft.	$1 50	$1 75	$2 00	$2 25	$2 50	$2 75	$3 00	$3 25	$3 50
1	01	01	01	02	02	02	02	02	02
2	02	02	03	03	04	04	05	05	05
3	03	04	04	05	06	06	07	07	08
4	05	06	06	07	08	09	09	10	10
5	06	07	08	09	10	11	12	13	13
6	07	08	09	11	12	13	14	15	16
7	08	10	11	12	14	15	16	17	19
8	09	11	12	14	16	18	19	20	21
16	19	22	25	28	31	35	37	40	43
24	28	33	37	42	47	52	56	61	65
32	38	44	50	56	63	69	75	81	87
40	47	55	63	70	78	86	94	1 02	1 09
48	56	66	75	84	94	1 03	1 12	1 22	1 31
56	61	77	88	98	1 09	1 20	1 13	1 42	1 53
64	75	88	1 00	1 13	1 25	1 38	1 50	1 62	1 75
72	84	98	1 13	1 27	1 41	1 55	1 69	1 83	1 96
80	94	1 09	1 25	1 41	1 56	1 72	1 88	2 03	2 18
84	98	1 15	1 31	1 48	1 64	1 81	1 97	2 13	2 29
88	1 03	1 20	1 38	1 55	1 72	1 89	2 06	2 23	2 40
92	1 08	1 26	1 44	1 62	1 80	1 98	2 15	2 33	2 51
96	1 13	1 31	1 50	1 69	1 88	2 06	2 25	2 44	2 62
104	1 22	1 42	1 63	1 83	2 03	2 23	2 44	2 64	2 84
112	1 31	1 53	1 75	1 97	2 19	2 41	2 62	2 84	3 06
120	1 41	1 64	1 88	2 11	2 34	2 58	2 81	3 05	3 28
128	1 50	1 75	2 00	2 25	2 50	2 75	3 00	3 25	3 50

WOOD AND BARK MEASUREMENT AT SIGHT.

(*Continued.*)

Ft.	$4 00	$4 50	$5 00	$5 50	$6 00	$6 50	$7 00	$7 50	$8 00
1	03	03	03	04	04	05	05	05	06
2	06	07	07	08	09	10	10	11	12
3	09	10	11	12	14	15	16	17	18
4	12	14	15	17	18	20	21	23	25
5	15	17	19	21	23	25	27	29	31
6	18	21	23	25	28	30	32	35	37
7	21	24	27	30	33	35	38	41	43
8	24	28	31	34	37	40	43	46	50
16	49	56	62	68	74	81	87	93	00
24	75	84	93	1 03	1 12	1 22	1 31	1 41	1 50
32	1 00	1 12	1 25	1 37	1 50	1 62	1 75	1 87	2 00
40	1 25	1 40	1 56	1 72	1 87	2 03	2 19	2 34	2 50
48	1 50	1 68	1 87	2 06	2 25	2 44	2 62	2 81	3 00
56	1 75	1 96	2 18	2 40	2 62	2 84	3 06	3 28	3 50
64	2 00	2 25	2 50	2 75	3 00	3 25	3 50	3 75	4 00
72	2 25	2 53	2 81	3 09	3 37	3 65	3 93	4 28	4 50
80	2 50	2 81	3 13	3 43	3 74	4 06	4 37	4 68	5 00
84	2 62	2 95	3 28	3 60	3 94	4 26	4 59	4 92	5 25
88	2 75	3 09	3 43	3 78	4 12	4 47	4 81	5 16	5 50
92	2 87	3 23	3 59	3 95	4 30	4 67	5 03	5 40	5 75
96	3 00	3 37	3 75	4 12	4 49	4 87	5 25	5 62	6 00
104	3 25	3 65	4 05	4 47	4 87	5 28	5 69	6 09	6 50
112	3 50	3 93	4 38	4 80	5 24	5 69	6 12	6 56	7 00
120	3 75	4 21	4 68	5 15	5 62	6 09	6 56	7 03	7 50
128	4 00	4 50	5 00	5 50	6 00	6 50	7 00	7 50	8 00

The Wedding Anniversary.

Fifth year	Wooden Wedding
Tenth year	Tin Wedding
Fifteenth year	Crystal Wedding
Twentieth year	China Wedding
Twenty-fifth year	Silver Wedding
Thirtieth year	Pearl Wedding
Fortieth year	Ruby Wedding
Fiftieth year	Golden Wedding
Seventy-fifth year	Diamond Wedding

Table for Engineers and Machinists.

Size and Strength of Cast Iron Columns. Iron 1 in. Thick.

Diameter in inches.	Height in Feet.										
	4	6	8	10	12	14	16	18	20	22	24
	Load in Cwt.										
2	72	60	49	40	32	26	22	18	15	13	11
2½	119	105	91	77	65	55	47	40	34	29	25
3	178	143	145	128	111	97	84	73	64	56	49
3½	247	232	214	191	172	156	135	119	106	94	83
4	326	318	288	266	242	220	198	178	160	144	130
4½	418	400	379	354	327	301	275	251	229	208	189
5	522	501	479	452	427	394	365	337	310	285	262
6	607	592	573	550	525	497	469	440	413	386	360
7	1032	1013	989	959	924	887	848	808	765	725	686
8	1333	1315	1289	1259	1224	1185	1142	1097	1052	1005	959
9	1716	2697	1672	1640	1603	1561	1515	1461	1461	1364	1311
10	2119	2100	2077	2045	2007	1964	1916	1865	1811	1755	1697
11	2570	2550	2520	2490	2450	2410	2358	2305	2248	2189	2127
12	3050	3040	3020	2970	2930	2900	2830	2780	2730	2670	2600

WEIGHTS OF CORDWOOD.

	Lbs.	*Carbon.*
One cord of Hickory.................	4,468	100
“ Hard Maple.............	2,864	58
“ Beech....................	3,234	64
“ Ash......................	3,449	79
“ Birch................. ...	2,368	49
“ Pitch Pine...............	1,903	43
“ Canada Pine.............	1,870	42
“ Yellow Oak..............	2,920	61
“ White Oak	1,870	81
“ Lombardy Poplar.........	1,775	41
“ Red Oak.................	3,255	70

READY RECKONER TABLE.

For computing Wages, Rent, Board, etc. The sum will be ound heading the columns, and the days and weeks on the exreme left-hand column. If the desired sum is not in the table louble or treble two or three suitable numbers.

Time.		$2.50	$2.75	$3.00	$3.25	$3.50	$3.75	$4.00	$4.25	$4.50	$4.75
Days.	1	.36	.39	.43	.44	.50	.53	.57	.61	.64	.68
	2	.72	.78	.86	.93	1.00	1.07	1.14	1.21	1.28	1.36
	3	1.08	1.17	1.29	1.39	1.50	1.61	1.71	1.82	1.93	2.03
	4	1.44	1.56	1.71	1.86	2.00	2.14	2.28	2.43	2.57	2.71
	5	1.80	1.95	2.14	2.32	2.50	2.68	2.86	3.03	3.21	3.39
	6	2.15	2.34	2.57	2.78	3.00	3.21	3.43	3.64	3.86	4.07
1	....	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75
2	....	5.09	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50
3	....	7.50	8.25	9.00	9.75	10.50	11.25	12.00	12.75	13.50	14.25
4	....	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00
5	....	12.50	13.75	15.00	16.25	17.50	18.75	20.00	21.25	22.50	23.75

Time.		$5.00	$5.25	$5.50	$5.75	$6.00	$6.25	$6.50	$6.75	$7.00	$8.00
Days.	1	.71	.75	.79	.82	.86	.89	.93	.96	1.00	1.14
	2	1.43	1.50	1.58	1.64	1.72	1.78	1.86	1.92	2.00	2.28
	3	2.14	2.25	2.37	2.46	2.23	2.67	2.79	2.88	3.00	3.52
	4	2.86	3.00	3.15	3.28	3.44	3.56	3.72	3.84	4.00	4.26
	5	3.57	3.75	3.94	4.10	4.30	4.45	4.65	4.80	5.00	5.72
	6	4.28	4.50	4.73	4.92	5.16	5.34	5.58	5.76	6.00	6.86
1	....	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	8.00
2	....	10.00	10.50	11.00	11.50	12.00	12.50	13.00	13.50	14.00	16.00
3	....	15.00	15.75	16.50	17.25	18.00	18.75	19.50	20.25	21.00	24.00
4	....	20.00	21.00	22.00	23.00	24.00	25.00	26.00	27.00	28.00	32.00
5	....	25.00	26.25	27.50	28.75	30.00	31.25	32.50	33.50	35.00	40.00

WEIGHT OF LEAD PIPE—DIFFERENT SIZES.

Caliber.	AAA Weight per foot.		AA Weight per foot.		A Weight per foot.		B Weight per foot.		C Weight per foot.		D Weight per foot.		D Light Weight per foot.		E Weight per foot.		E Light Weight per foot.	
In.	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.
⅜	1	8	1	5	1	2	1	0	0	13	0	10	......		0	8	......	
½	3	0	2	0	1	12	1	4	1	0	0	13	......		0	11	0	9
⅝	3	8	2	12	2	8	2	0	1	12	1	8	1	4	1	0	1	12
¾	4	8	3	8	3	0	2	4	2	0	1	12	1	8	1	4	1	0
1	6	0	4	12	4	0	3	4	2	8	2	0	......		1	8	......	
1¼	6	12	5	12	4	12	3	12	3	0	2	8	......		2	0	......	
1½	9	0	8	0	6	4	5	0	4	4	3	8	......		3	4	......	
	10	12	9	0	7	0	6	0	5	4	4	0	......		......		......	

WEIGHT OF IRON PER FOOT.

ROUND.		SQUARE.		FLAT.		FLAT.		FLAT.	
Size.	Weight.	Size.	Weight.	Size.	Weight.	Size.	Weight.	Size.	Weight.
¼	.163	¼	.208	1 x¼	.833	1¾x½	2.91	4½x¾	11.25
⅜	.368	⅜	.468	1⅛x¼	.937	2 x½	3.33	5 x¾	12.50
½	.654	½	.833	1¼x¼	1.04	2¼x½	3.74	5½x¾	13.75
⅝	1.02	⅝	1.30	1⅜x¼	1.14	2½x½	4.16	6 x¾	15.00
¾	1.47	¾	1.87	1½x¼	1.25	2¾x½	4.58	1 x⅞	2.91
⅞	2.00	⅞	2.55	1¾x¼	1.45	3 x½	5.00	1⅛x⅞	3.28
1	2.61	1	3.33	2 x¼	1.66	3½x½	5.83	1¼x⅞	3.6
1⅛	3.31	1⅛	4.21	2¼x¼	1.87	4 x½	6.66	1⅜x⅞	4.01
1¼	4.09	1¼	5.20	2½x¼	2.08	5 x½	8.33	1½x⅞	4.37
1⅜	4.95	1⅜	6.30	2¾x¼	2.29	6 x½	10.00	1¾x⅞	5.10
1½	5.89	1½	7.50	3 x¼	2.50	1 x⅝	2.08	2 x⅞	5.83
1⅝	6.91	1⅝	8.80	3¼x¼	2.70	1⅛x⅝	2.34	2¼x⅞	6.56
1¾	8.01	1¾	10.20	3½x¼	2.91	1¼x⅝	2.60	2½x⅞	7.29
1⅞	9.20	1⅞	11.71	3¾x¼	3.12	1⅜x⅝	2.86	2¾x⅞	8.02
2	10.47	2	13.33	4 x¼	3.33	1½x⅝	3.12	3 x⅞	8.75
2⅛	11.82	2⅛	15.05	4½x¼	3.75	1¾x⅝	3.64	3½x⅞	10.20
2¼	13.25	2¼	16.87	5 x¼	4.17	2 x⅝	4.16	4 x⅞	11.66
2⅜	14.76	2½	20.80	6 x¼	5.00	2¼x⅝	4.68	4½x⅞	13x12
2½	16.36	2¾	25.20	1 x⅜	1.25	2½x⅝	5.20	5 x⅞	14.58
2¾	19.79	3	30.00	1⅛x⅜	1.40	2¾x⅝	5.72	5½x⅞	16.04
3	23.56	3⅛	32.55	1¼x⅜	1.56	3 x⅝	6.25	6 x⅞	17.50
3⅛	25.66	3¼	35.29	1⅜x⅜	1.71	3½x⅝	7.29	1⅛x1	3.75
3¼	27.65	3⅜	37.96	1½x⅜	1.87	4 x⅝	8.33	1¼x1	4.16

3⅜	29.82	3½	40.80	1¾x⅜	2.18	5 x⅝	10.41	1⅜x1	4.5
3½	32.07	3¾	46.87	2 x⅜	2.50	6 x⅝	12.50	1½x1	5.00
3¾	36.81	4	53.33	2¼x⅜	2.81	1 x¾	2.50	1¾x1	5.83
4	41.88	4¼	60.20	2½x⅜	3.12	1⅛x¾	2.81	2 x1	6.66
4⅛	44.54	4½	67.50	2¾x⅜	3.43	1¼x¾	3.12	2¼x1	7.50
4¼	47.28	4¾	75.20	3 x⅜	3.75	1⅜x¾	3.43	2½x1	8.33
4⅜	50.11	5	83.33	3½x⅜	4.37	1½x¾	3.75	2¾x1	9.16
4½	53.01	5¼	93.20	4 x⅜	5.00	1¾x¾	4.37	3 x1	10.00
4¾	59.06	5½	102.20	5 x⅜	6.25	2 x¾	5.00	3½x1	11.66
5	65.45	6	112.20	6 x⅜	1.50	2¼x¾	5.62	4 x1	13.33
5¼	73.02	....	....	1 x½	1.66	2½x¾	6.25	4½x1	15.00
5½	80.03	....	....	1⅛x½	1.87	2¾x¾	6.87	5 x1	16.66
5¾	87.08	....	....	1¼x¼	2.08	3 x¾	8.50	5½x1	18.33
6	95.06	....	....	1⅜x½	2.29	3½x¾	8.75	6 x1	20.00
6½	112.02	....	....	1½x½	2.50	4 x¾	10.00	6½x1	21 66

WEIGHT OF FLAT STEEL PER FOOT.

	1	1⅛	1¼	1⅜	1½	1¾	2	2¼	2½	2¾	3	3¼	3½
¼	.852	.958	1.06	1.17	1.27	1.49	1.70	1.91	2.13	2.34	2.55	2.77	2.97
⅜	1.27	1.43	1.59	1.75	1.91	2.23	2.55	2.87	3.20	3.51	3.83	4 15	4.47
½	1.70	1.91	2 13	2.34	2.55	2.98	3.40	3.83	4.26	4.68	5.11	5.53	5.98
⅝	2.13	2.39	2.66	2.92	3.19	3.72	4.26	4.79	5.32	5.85	6.39	6.92	7.45

MOULDERS AND PATTERN MAKERS' TABLE.

	Cast Iron being 1,		Bar Iron being 1,		White Pine being 1,	
Bar Iron	equal	1.07	Cast Iron equal	.95	Cast Iron equal	13.
Steel	"	1.08	Steel "	1.03	Brass "	12.7
Brass	"	1.16	Copper "	1.16	Copper "	13.4
Copper	"	1.21	Brass "	1.09	Lead "	18.1
Lead	"	1.5[illegible]	Lead "	1.48	Zinc "	11.5

RELATIVE STRENGTH OF BODIES TO RESIST TORSION.

LEAD BEING 1.

Tin	1.4	Gun Metal	5.0	English Iron	10.1
Copper	4.3	Cast Iron	9.0	Blistered Steel	16.6
Yellow Brass	4.6	Swedish Iron	9.5	Shear Steel	17.0

CAPACITIES, SIZE AND WEIGHT OF COPPERS.

Depth in Inches.	Gallons.	Weight in pounds.	Depth in inches.	Gallons.	Weight in pounds.	Depth in inches.	Gallons.	Weight in pounds.
9¾	1	1½	24	15	22½	29½	29	43½
12¼	2	3	24½	16	24	30	30	45
14	3	4½	25	17	25½	32	36	54
15½	4	6	25½	18	27	34	43	64½
16½	5	7½	26	19	28½	35	48	72
17½	6	9	26½	20	30	36	53	79½
18½	7	10½	26¾	21	31½	37	58	87
19½	8	12	27	22	33	38	63	74½
20¼	9	13½	27¼	23	34½	39	67	100½
21	10	15	27½	24	36	40	71	106½
21½	11	16½	27¾	25	37½	45	104	156
22	12	18	28	26	39	50	146	219
22½	13	19½	28½	27	40½			
43¼	14	21	29	28	42			

Square per Foot.				Round per Foot.			
Size.	Weight.	Size.	Weight.	Size.	Weight.	Size.	Weight.
Inches square.	Pounds.	Inches square.	Pounds.	Inches Diam.	Pounds.	Inches Diam.	Pounds.
½	.78	4	50.	½	.61	4⅛	41.66
⅝	1.22	4⅛	53.14	⅝	.95	4¼	44.27
¾	1.75	4¼	56.44	¾	1.38	4⅜	46.97
⅞	2.39	4⅜	59.81	⅞	1.87	4½	49.70
1	3.12	4½	63.28	1	2.45	4⅝	52.50
1⅛	3.95	4⅝	66.84	1⅛	3.10	4¾	55.37
1¼	4.88	4¾	70.50	1¼	3.83	4⅞	58.32
1⅜	5.90	4⅞	74.26	1⅜	4.64	5	61.35
1½	7.03	5	78.12	1½	5.52	5⅛	64.46
1⅝	8.25	5⅛	82.08	1⅝	6.48	5¼	67.64
1¾	9.57	5¼	86.13	1¾	7.51	5⅜	70.09
1⅞	10.98	5⅜	90.28	1⅞	8.62	5½	74.24
2	12.50	5½	94.53	2	9.81	5⅝	77.65
2⅛	14.11	5⅝	98.87	2⅛	11.08	5¾	91.14
2¼	15.81	5¾	103.32	2¼	12.42	5⅓	84.71
2⅜	17.62	5⅞	107.86	2⅜	13.84	6	88.35
2½	19.53	6	112.50	2½	15.33	6¼	95.87

The Running Turf.

DISTANCE.	TIME.	NAME.	PLACE.	DATE.
¼ mile.	0:21½	Jim Miller (2 years)	Deer Lodge, Mont	Aug. 16, 1888
¼ “	0:21½	Sleepy Dick (aged)	Kiowa, Kan	Nov. 21, 1888
⅜ “	0:34½	Cyclone (aged), 120 lbs	Helena, Mont	Aug. 28, 1889
½ “	0:46	Geraldine (4 yrs.), 122 lbs. Tr. partly down hill.	Westchest'r, N.Y.	Aug. 30, 1889
½ “	0:47¾	Olitipa (2 yrs.), 97 lbs. Best on level track	Saratoga, N. Y.	July 25, 1874
⅝ “	0:59	Britannic (5 yrs.), 122 lbs. Tr. partly down hill.	Westchest'r, N.Y.	Aug. 31, 1889
⅝ “	0:59	Fordham (4 yrs.), 115 lbs	“ “	Oct. 4, 1889
⅝ “	0:59	Sallie McClelland (2 yrs.), 115 lbs	“ “	May 31, 1890
⅝ “	1:00	Kittie Pease (4 y). Twice in ht. r. Best on lev. tr.	Dallas, Tex	Nov. 2, 1887
⅝ “	1:01	Princess Bowling (2 y), 118 lbs. Best at age & wt.	Louisville, Ky	Sept. 25, 1888
5½ furlong.	1:06⅖	Hanover (5 yrs.), 124 lbs	Sheepsh'd By, L.I.	June 19, 1889
6 “	1:10¼	Fides (4 yrs.), 116 lbs. Track partly down hill.	Westchest'r, N.Y.	May 31, 1890
6 “	1:11	El Rio Rey (2 y.), 126 lbs. Best at age & weight.	“ “	Aug. 31, 1889
6 “	1:13	Force (5 years), 120 lbs	Louisville, Ky	Sept. 24, 1883
6 “	1:13	Tom Hood (4 y.), 115 lbs. Best on lev. & strt. tr.	“ “	Sept. 19, 1888
6 “	1:13½	Gregory (2 y.), 105 lbs. Best on circular track	Gravesend, L. I.	Sept. 30, 1889
7 “	1:23½	Belia B. (5 yrs.), 103 lbs. Straight track	Monm'th Pk, N.J.	July 8, 1890
7 “	1:23⅖	Brittannic (5 years), 110 lbs	Sheepsh'd By, L.I.	Sept. 5, 1889
7 “	1:28	Emp. of Norf'k (3 y.), 125 lbs. Best at age & wt.	“ “ “	June 14, 1888
1 mile.	1:35½	Salvator (4 yrs.), 110 lbs. Straight tr. ag. time	Monm'th Pk, N.J.	Aug. 26, 1890
1 m. 70 yds.	1:45¼	Lizzie B. (5 years), 104 lbs	Chicago, Ill	July 2, 1890
1 1/16 miles.	1:46½	Prince Royal (5 years), 116 lbs	Westchest'r, N.Y.	June 11, 1890
1 1/16 “	1:47½	Jim Douglas (aged), 122 lbs. Best at weight	Chicago, Ill	June 29, 1886
1⅛ “	1:52¾	Teuton (4 years), 113 lbs	“ “	June 28, 1890
1⅛ “	1:53	Terra Cotta (4 years), 124 lbs	Sheepsh'd By, L.I.	June 23, 1889
1 3/16 “	2:00⅕	Tristan (5 years), 102 lbs	“ “	Sept. 4, 1890
1 3/16 “	2:03	Exile (4 y.), 126 lbs. Best at weight. Grass track	“ “	Aug. 28, 1886
1¼ “	2:03¾	Banquet (3 yrs.), 108 lbs. Straight track	Monm'th Pk, N.J.	July 17, 1890
¼ “	2:05	Salvator (4 y.), 122 lbs. Best on circular track	Sheepshd By, L.I.	June 25, 1890
¼ “	2:07½	Sinfax (2 yrs.), 90 lbs. Fastest at age	San Francisco, Cal	Nov. 20, 1890

	miles.	2:20¾	[illegible] (4 yrs.), 100 lbs.	Chicago, Ill.	[illegible]
1½	"	2:33	Firenzi (6 yrs.), 117 lbs.	Sheepshd By, L.I.	June 26, 1890
1⅝	"	2:48	Hindoocraft (3 yrs.), 75 lbs.	Westchest'r, N.Y.	Aug. 27, 1889
1¾	"	3:01	Glidelia (5 yrs.), 116 lbs.	Saratoga, N. Y.	Aug. 5, 1882
1⅞	"	3:20	Enigma (4 yrs.), 90 lbs.	Sheepshd By, L.I.	Sept. 15, 1885
2	"	3:27½	Ten Broeck (5 yrs.), 110 lbs., against time	Louisville, Ky.	May 20, 1877
2⅛	"	3:44½	Monitor (4 yrs.), 110 lbs.	Baltimore, Md.	Oct. 20, 1880
2¼	"	3:56¼	Preakness (ag.), 114 lbs. & Sp'gbok (5 y) 114 lbs. d'd. h	Saratoga, N. Y.	June 29, 1875
2½	"	4:27½	Aristides (4 yrs.), 104 lbs.	Lexington, Ky.	May 13, 1876
2⅝	"	4:58½	Ten Broeck (4 yrs.), 104 lbs.	" "	Sept. 16, 1876
2¾	"	4:58¾	Hubbard (4 yrs.), 103 lbs.	Saratoga, N. Y.	Aug. 9, 1873
3	"	5:24	Drake Carter (4 yrs.), 115 lbs.	Sheepshd By, L.I.	Sept. 6, 1884
4	"	7:15¾	Ten Broeck (4 yrs.), 104 lbs., against time	Louisville, Ky.	Sept. 27, 1876
10	"	26:18	Mr. Brown (6 yrs.), 160 lbs. C. H. Pell, rider	Rancocas, N. J.	Mar. 2, 1880

Heat Racing.

¼	mile.	0:21½-0:22¼	Sleepy Dick (aged)	Kiowa, Kan.	Nov. 24, 1888
½	"	0:48 -0:48	Bogus (aged), 113 lbs.	Helena, Mont.	Aug. 22, 1888
⅝	"	1:00 -1:00	Kittie Pease (4 yrs.)	Dallas, Tex.	Nov. 2, 1887
¾	"	1:13¼-1:13¼	Lizzie S. (5 yrs.), 118 lbs.	Louisville, Ky.	Sept. 28, 1883
1	"	1:42 -1:41½	Bounce (4 yrs.), 90 lbs.	Sheepshd By, L.I.	Sept. 8, 1881
1	"	1:42¼-1:41¾	Gabriel (5 yrs.), 115 lbs. Best at weight	St. Louis, Mo.	June 13, 1881
1 1/16	miles.	1:50½-1:48	Slipalong (5 yrs.), 115 lbs.	Chicago, Ill.	Sept. 2, 1885
1⅛	"	1:56 -1:56	Gabriel (4 yrs.), 112 lbs.	Sheepshd By, L.I.	Sept. 23, 1880
1⅛	"	1:56 -1:56⅗	Firenzi (4 yrs.), 125 lbs. Best at weight	" "	Sept. 15, 1888
1¼	"	2:10 -2:14	Glenmore (5 yrs.), 114 lbs.	" "	Sept. 25, 1880
1½	"	2:42¼-2:43	Bigaroon (4 yrs.)	Lockport, N. Y.	July 4, 1872
2	"	3:33 -3:31¼	Miss Woodford (4 yrs.), 107½ lbs.	Sheepshd By, L.I.	Sept. 20, 1884
3	"	5:27½-5:29½	Norfolk (4 yrs.), 100 lbs.	Sacramento, Cal.	Sept. 23, 1865
3	"	5:28	Brown Dick (3 yrs.), 86 lbs. Best second heat	New Orleans, La.	Apr. 10, 1855
3	"	5:28¾	Mollie Jackson (4 y.), 101 lbs. Best third heat	Louisville, Ky.	May 25, 1861
4	"	7:23½-7:41	Frida (4 yrs.), 108 lbs.	Sheepshd By, L.I.	Sept. 18, 1880
4	"	7:30¼-7:31	Glenmore (4 yrs.), 108 lbs. Best 2d & 3d heats	Baltimore, Md.	Oct. 25, 1879

The Running Turf—Over Hurdles.

Distance.	Time.	Name.	Place.	Date.
1 mile	1:49	Bob Thomas 5y 140 lbs 4 hurdles.....	Chicago, Ill.............	Aug. 13, 1890.
1 "	1:50¾-1:50¼	Joe Rhodes 5y 14 lbs 4 hurdles........	St. Louis, Mo...........	June 4, 1878.
1⅛ mls	2:02¾	Winslow 4y 138 lbs 5 hurdles.........	Chicago, Ill..............	Aug. 29, 1888.
1¼ "	2:16	Jim McGowan 4y 127 lbs 5 hurdles.	Br. Beach, C. I.........	Nov. 9, 1882.
1⅜ "	2:35	Guy (aged) 155 lbs 5 hurdles...........	Latonia, Ky.............	Oct. 8, 1885.
1½ "	2:47	Kitty Clark 3y 130 lbs 6 hurdles......	Br. Beach, C. I.........	Aug. 23, 1881.
1½ "	2:47	Speculation 6y 125 lbs 6 hurdles.....	" "	July 19, 1881.
1⅝ "	3:16	Turfman 5y 140 lbs 7 hurdles.........	Saratoga, N. Y.........	Aug. 7, 1882.
1¾ "	3:17	Kitty Clark 4y 142 lbs 7 hurdles......	Monmouth Pk, N. J..	July 12, 1882.
2 "	3:47½	Tom Leathers (agd) 117 lbs 8 hrdls.	New Orleans, La......	April 16, 1875.
2 "	3:48¼	Ventilator (agd) 135 lbs 8 hurdles..	Sheeps h'd Bay, L. I..	June 24, 1880.
1¼ "	4:33	Cariboo 5y 154 lbs 9 hurdles.............	Monmouth Pk, N. J.	Aug. 28, 1875.

Long Distance Riding.

Distance.	Time.	Name.	Place.	Date.
10 mls	20:02	Miss Belle Cook 5 hors ch 5 times...	Minneapolis, Minn..	Sept. 10, 1882.
20 "	40:59	Little Cricket ch horses at will.......	" " ..	Sept. 7, 1882.
50 "	1 50:03½	Carl Pugh 10 h ch at will mtch race.	S. Bernardino, Cal...	July 7, 1883.
60 "	2.30:00	Geo Osbaldiston 11 horses.............	Newmarket, Eng.....	Nov. 5, 1831.
100 "	4.19:40	" " 16 "	" "	Nov. 5. 1831.
101m4971f mls	4.42:35	Miss Nellie Burke ch hors 54 times	Galveston, Tex........	Feb. 25, 1884.
155 "	6.45:07	John Murphy ag time 20 horses.....	New York, N. Y......	July 3, 1876.
200 "	8 hours.	Nell H Mowry 30 horses................	Bay V'w Pk, S. F'co.	Aug. 2, 1868.
201 "	52 "	Hesing Jr mtch with G Guyon ped	Chicago, Ill..............	Jan. 9, 10, 11, 1880.
300	14.00:00	Nell H Mowry 30 horses.............. ..	San Francisco, Cal...	Aug. 2, 1868.
559m734y mls		Pinafore 6 day race ag men & hors..	" " ...	Oct. 15-20, 1879.
71½ "	72 hours.	C M Anderson 12 h daily ch at will.	" " ...	Aprl 5-20, 1884.
	90 "	" 15 " "	" " ...	May 15, 1880.

PEDESTRIANISM—Running.

Amateur performances are designated by an asterisk (*).

DISTANCE.	NAME.	PLACE.	DATE.	TIME.
50 yards	H. M. Johnson	New York City.	Nov. 22, 1884.	5¼ s.
50 "	*L. E. Myers	" "	Dec. 12, 1884.	5½ s.
75 "	James Quirk (against time)	Parkhill, Can.	Oct. 30, 1889.	7¼ s.
75 "	*F. G. Saportas	New York City.	Jan. 5, 1878.	7¾ s.
80 "	*Wendell Baker (against time)	Boston, Mass.	July 1. 1886.	8 s.
100 "	H. M. Johnson	Cleveland, O.	July 31, 1886.	9 4-5 s.
100 "	Harry Bethune	Oakland, Cal.	Feb. 22, 1888.	9 4-5 s.
500 "	*L. E. Myers	Staten Island.	May 29, 1880.	58 s.
1,000 "	*L. E. Myers	New York City.	Oct. 8, 1881.	2:13.
1 mile	W. G. George	London, Eng.	Aug. 23, 1886.	4:12¾.
2 miles	Wm. Lang	Manchester, Eng.	Aug. 1, 1863.	9:11½.
3 "	P. Cannon	Govan, Scotland.	May 14, 1888.	14:19½.
4 "	P. Cannon	Glasgow, Scotland.	Nov. 8, 1888.	19:25 2-5.
5 "	J. White	London, Eng.	May 11, 1863.	24:40.
6 "	J. White	" "	" "	29:50.
7 "	J. White	" "	" "	34:45.
8 "	J. Howitt	" "	June 1, 1852.	40:20.
9 "	J. Howitt	" "	" "	45:21.
10 "	W. Cummings	" "	Sept. 18, 1885.	51:06.
20 "	Patrick Byrnes	Halifax, N. S.	Oct. 4, 1879.	1:54:00.
30 "	G. Mason	London, Eng.	March 14, 1881.	3:15:09.
40 "	James Bailey	" "	" "	4:37:27.
50 "	George Cartwright	" "	Feb. 21, 1887.	5:55:04½

72-Hour Races—12 Hours Daily.—Greatest distance traveled go-as-please in 12 hours, G. Littlewood, at London, Eng., Nov. 24, 1884, 89 miles, 880 yards. 24 Hours.—G. Littlewood, London, Eng., Nov. 25, 1884, 162 miles, 704 yards. 36 Hours.—G. Littlewood, London, Eng., Nov. 24-26, 1884, 229 miles, 408 yards. 48 Hours.—G. Littlewood, London, Eng., Nov. 24-27, 1884, 296 miles, 1,056 yards. 60 Hours.—C. Rowell, London, Eng., April 27 and May 1, 1885, 362 miles, 528 yards. 72 Hours.—C. Rowell, Eng., April 27 and May 2, 1885, 430 miles.

Best Trotting Records.

DISTANCE	TIME.	NAME.	PLACE.	DATE.
½ mile	1:02½	Sunol against time............................	Detroit, Mich...........	July 24, 1890
1 “	2:08¾	Maud S. ag. time, in harn. with run. m.	Glenville, O..............	July 30, 1885
1 “	2:11 – 2:10¼	J. Eye S. ag. t. with run. m. Fast's 2 trials	Philadelphia, Pa........	Aug. 15, 1884
1 “	2:10½	Sunol ag. t. with run. m. Best 3 y. old rec	San Francisco, Cal...	Nov. 9, 1889
1 “	2:10¾	Nelson “ “ Fastest stallion t.	Cambridge City, Ia...	Oct. 21, 1890
1 “	2:10½	Sunol “ Best 4-year old record......	Chicago, Ill...............	Aug. 26, 1890
1 “	2:13	Palo Alto. Best time against horses..	“ “	Aug. 22, 1890
1 “	2:13¾	Phallas. Best heat by stal. ag. oth. hrs.	“ “	July 14, 1884
1 “	2:13¾	Palo Alto. Third heat........................	Stockton, Cal...........	Sept. 26, 1889
1 “	2:14	Allerton, stal. (4 yrs.), kite-shaped tr.	Independence, Ia......	Oct. 30, 1890
1 “	2:16	Edgemark “ “ circular track.	Lexington, Ky..........	Oct. 18, 1889
1 “	2:15¼	Nelson “ ag. time. ½-mile track.	Bangor, Me...............	Sept. 6, 1890
1 “	2:15½ – 2:13¼ 2:15 – 2:16	Palo Alto. Best 4 consec. hts. in stal. race. Palo A. t'k 2d & Jack the oth'rs	Detroit, Mich...........	Aug. 2, 1890
1 “	2:15¾	Great Eastern, under saddle, 3d beat..	Morrisonia, N. Y......	Sept. 22, 1877
1 “	2:16½ – 2:17 2:17	Hopeful. Best time and best 2d and 3d consecutive heats to wagon......	Chicago, Ill...............	Oct. 12, 1878
1 “	2:10¾	Jay Eye See, ag. t. Best 5-year-old rec.	Providence, R. I........	Sept. 15, 1883
1 “	2:18	Sunol (2 years), against time.............	San Francisco, Cal...	Oct. 27, 1888
1 “	2:18	Faust. Best 3-year-old record in race	Butte, Mont....	Aug. 27, 1889
1 “	2:20¾	Regal Wilkes. Best 2-yr.-old stal. rec.	San Francisco, Cal...	Nov. 9, 1889
1 “	2:29¾	Freedom ag. t. Best yrl. & yrl. stal. rec.	Napa, Cal.................	Oct. 18, 1890
1 “	2:25	Col. Wood. Best English record........	Alexand'a Pk., Lond.	Oct. 27, 1890
2 “	4:43	Fanny Witherspoon, against time......	Chicago, Ill....	Sept. 25, 1885
2 “	4:48½ – 4:51	Steve Maxwell. Best 2 cons. hts. in har.	Rochester, N. Y........	Aug. 10, 1880
2 “	4:56½	Gen. Butler, to wagon, 1st heat...........	Fashion Course, L. I..	Oct. 27, 1865
3 “	7:21¼	Huntress, harness.............................	Brooklyn, N. Y.........	Sept. 21, 1872
3 “	7:32½	Dutchman, saddle.............................	Hoboken, N. J..........	Aug. 1, 1839
3 “	7:53	Longfellow, wagon............................	Sacramento, Cal........	Sept. 21, 1868
4 “	10:34½	“ “	California.................	Dec. 31, 1869
4 “	10:51	Dutchman, saddle.............................	....	May —, 1836
4 “	10:52½	Satellite, harness.............................	Keokuk, Ia...............	Aug. 12, 1887

5	"	13:00	Lady Mac, "	San Francisco, Cal.	April 2, 1874
5	"	13:43¾	Little Mac, wagon		Oct. 20, 1863
6	"	16:53¾	Satellite, harness	Keokuk, Ia.	Aug. 15, 1880
10	"	27:23¼	Controller, "	San Francisco, Cal.	Nov. 23, 1878
10	"	27:56½	Steel Gray, saddle	Leeming Lane, Eng.	April 14, 1875
20	"	58:25	Gapt. McGowan, harness, ½-mile trk.	Boston, Mass.	Oct. 31, 1865
50	"	3.52:00	Ginger, 15:3 hds., wgn. & dr. wg. 276 lbs.	Bath Road, Eng.	July 10, 1887
50	"	3.55:40½	Ariel, harness, driver weighing 60 lbs.	Albany, N. Y.	1846
100	"	8.55:53	Conqueror, harness	Union Course, L. I.	Nov. 12, 185

With Running Mate.

1	mile	2:06	H. B. Winship, against time	Providence, R. I.	Aug. 1, 1884
1	"	2:08½	Frank, against another horse	Brooklyn, N. Y.	Nov. 15, 1883
1	"	2:09¾	H. B. Winship in a race. Fasts. 4th ht.	Chicago, Ill.	July 5, 188
1	"	2:10¼	" Fastest 2d heat	Brooklyn, N. Y.	Nov. 15, 1883
1	"	2:12¾ – 2:10¾ 2:09¾	" " 3d ht. & 3 conc. hts.	Chicago, Ill.	July 5, 1884

Double Teams.

1	mile	2:13	BelleHamlin & Justina, ag. t. skl. w. ki. tr	Independence, Ia.	Oct. 27, 189
1	"	2:15	" ag. t., skel. wag., round tr.	Terre Haute, Ind.	Oct. 10, 189
1	"	2:24¼	Harry Mills & Eddie Medium, ½-m. tr.	Waverly, N. J.	Sept. 22, 1887

Pacing Records.

¼	mile	0:29¼	Johnston, against time	Springfield, Mass.	Sept. 14, 1888
½	"	1:00½	" "	New York, N. Y.	Sept. 21, 1888
1	"	2:07¾	Westmount, ag. time, with run. mate	Chicago, Ill.	July 10, 1884
1	"	2:06¼	Johnston, harness, against time	" "	Oct. 3, 1884
1	"	2:08½	Roy Wilkes, ag. t. Best stl. rec., k. sh. tr.	Independence, Ia.	Aug. 30, 1890
1	"	2:09¾ – 2:12¾ 2:13	Hal Pointer. Best time in race and best 3 consecutive heats	Terre Haute, Ind.	Oct. 9, 1890
1	"	2:11½	Adonis. Race between horses	Glenville, O.	July 30, 1890
1	"	2:13	Johnston, saddle	" "	Aug. 3, 1888
2	miles	4:56½	Hero, harness	Union Course, L. I.	May 17, 1853
3	"	7:44	Oneida Chief, saddle	Hoboken, N. J.	Aug. 15, 1843

BYCYCLING.

Amateur performances are designated by an asterisk (*).

DISTANCE.	NAME.	PLACE.	DATE.	TIME.
440 yards	G. M. Hendee (agst. time)	Springfield, Mass.	July 5, 1886	36⅗ : 5
1 mile	*W. Windle (agst. time	Peoria, Ill.	Sept. 15, 1890	2:25⅖
2 "	W. A. Rowe (agst. time)	Springfield, Mass.	Oct. 14, 1886	5:11
3 "	" "	" "	" "	7:48⅘
4 "	" " (agst. time)	" "	Oct. 25, 1886	10:41⅖
5 "	" "	" "	" "	13:23⅘
10 "	" "	" "	" "	27:07⅕
25 "	F. F. Ives (agst. time)	" "	Oct. 9, 1886	1.14:23⅕
25 "	J. Dubois	Coventry, Eng.	Aug. 25, 1887	1.10:34⅘
25 "	*P. Furnival	Surbiton, Eng.	Sept. 22, 1887	1.13:49⅗
50 "	S. G. Whittaker	St. Louis, Mo.	Nov. 26, 1885	2.55:38⅗
50 "	*J. H. Adams	———, Eng.	July 25, 1889	2.33:37⅖
50 "	W. F. Knapp (ag. time)	Leicester, Eng.	Aug. 14, 1888	2.29:41
100 "	*F. R. Fry	London, Eng.	July 27, 1883	5.50:05⅖
100 "	F. E. Dingley	Lynn, Mass.	Sept. 22, 1887	5.38:44⅘
105 "	" "	Minneapolis, Mass.	Dec. 9-10, 1887	6.21:25
120 "	" "	" "	" "	7.22:48
130 "	" "	" "	" "	8.04:55
140 "	" "	" "	" "	8.44:37
150 "	" "	" "	" "	9.24:52
160 "	" "	" "	" "	10.06:45
200 "	" "	" "	" "	12.56:50
250 "	" "	" "	" "	16.39:42
300 "	" "	" "	" "	20.16:12
320 "	" "	" "	" "	21.45:25
350½ "	" "	" "	" "	23.59:58

SAFETY BICYCLE.

Amateur performance.*

DISTANCE.	NAME.	PLACE.	DATE.	TIME.
¼ mile	S. G. Whittaker (agst time)	Long Eaton, Eng	Aug. 3, 1888	36
¼ "	*A. G. Sheen	Cardiff, Wales	Oct. 19, 1889	35⅖
¼ "	*W. F. Gassler (agst. time)	Hartford, Conn.	July 11, 1890	34
½ "	A. P. Engleheart	Coventry, Eng	June 13, 1888	1:18⅕
½ "	*E. Leitch (agst. time)	Paddington, Eng	June 17, 1890	1:13⅖
½ "	*P. J. Berlo (agst. time)	Peoria, Ill	Sept. 15, 1890	1:13⅕
½ "	*C. E. Kluge (agst. time)	" "	" 16, 1890	1:13⅕
½ "	R. Howell	Springfield, Mass	" 25, 1885	1:22
¾ "	F. W. Allard	Coventry, Eng	May 12, 1888	1:53⅗
¾ "	*R. J. Mecready	Paddington, Eng	July 9, 1890	1:52⅘
¾ "	P. J. Berlo (agst. time)	Peoria, Ill	Sept. 15, 1890	1:51
¾ "	*C. E. Kluge (agst. time)	" "	" 16, 1890	1:51
1 "	S. G. Whittaker	Long Eaton, Eng	" 18, 1888	2:31⅘
1 "	*P. J. Berlo (agst. time)	Peoria, Ill	" 15, 1890	2:30
2 miles	S. G. Whittaker	Long Eaton, Eng	" 11, 1888	5:18⅖
2 "	*A. P. Engleheart	Springfield, Mass	" 10, 1885	5:46⅗
10 "	S. G. Whittaker (agst. time)	Long Eaton, Eng	" 11, 1888	27:05⅖
10 "	T. W. Eck	Minneapolis, Minn	Dec. 10, 1887	37:30
25 "	S. G Whittaker (agst. time)	Long Eaton, Eng	Sept. 18, 1888	1.11:05⅕
25 "	*E. L. Bates	Paddington, Eng	July 30, 1889	1.14:37⅕
26 "	S. G. Whittaker (agst. time)			1.15:28⅖
30 "	E. Oxborrow (agst. time)	Coventry, Eng:	Sept. 12, 1888	1.28:29
40 "	*J. E. L. Bates	London, Eng	July 30, 1889	2.05:56⅘
50 "	*R. A. Lloyd (agst. time)	Paddington, Eng	" 31, 1890	2.41:47
50 "	T. W. Eck	Minneapolis, Minn	Dec. 10, 1887	3.18:50

One Hour—21 miles 126 yards, S. G. Whittaker, roadster safety, Bordeaux, France, August 15, 1888; *21 miles 100 yards, H. E. Laurie, England, August 31, 1888.

Two Hours—*37 miles 910 yards, J. H. Adams, England, August 28, 1889.

TANDEM SAFETY BICYCLE.

DISTANCE	NAME.	PLACE.	DATE.	TIME.
440 y'ds.	*S. E. Williams and E. E. Glover (agst. time).	Paddington, Eng...	Sept. 20, 1890	:40⅖
880 “	* “ “ “	“ “ ...	“ 20, “	1:18⅕
1,320 “	* “ “ “	“ “ ...	“ 20, “	1:58⅗
1 mile.	*H. Smith and W. F. Murphy “	Peoria, Ill...............	“ 15, “	2:27
1 “	*S E. Williams and E. E. Glover “	Paddington, Eng...	“ 20, “	2:40
1½ miles.	*Bert Myers and L. Massi (agst time).............	Peoria, Ill...............	“ 16, “	3:55⅕
2 miles.	* “ “ “	“ “	“ 16, “	5:15⅗
3 “	*R. A. Lloyd and E. E. Glover.........................	Paddington, Eng...	“ 4, “	8:30⅖
4 “	* “ “ (agst. time).......	“ “ ...	“ “ “	11:16⅕
5 “	* “ “	“ “ ...	“ “ “	14:02⅗
10 “	* “ “	“ “ ...	“ “ “	28:24⅘
15 “	D. Albone and E. E. Glover (agst. time)..........	London, Eng.........	Oct. 15, 1888	46:23
20 “	“ “ “	“ “	“ “	1.02:16⅖

TANDEM ROAD RIDING.

30 miles.	D. Albone and R. Tingey (safety).....................	Gr't N'th R'd, Eng.	Oct. 9, 1888	1.59:00
50 “	*P. C. Wilson and E. Dangerfield (safety).......	“ “ “	Aug. 18, 1890	2.40:34
100 “	*S. Edge and G. L. Morris..................................	“ “ “	Oct. 25, 1887	6.57:32

BILLIARD PLAYING.—Best run at three-ball carrom rail game—2,572, Harvey McKenna, Boston, Mass., December 21, 1887. Average, 416⅔. Best at four-ball carrom game—1,483, J. McDevitt, New York, January 8, 1868. Best at champion's game, three-ball carroms, 14x28 lines—398, George Slosson, match of 3,000-points (600 per night), Paris, France, January 30 to February 3, 1882. Best in America—351, J. R. Heiser, 600-point match, N. Y. City, February 14, 1884. Best at English spot-barred game—690, John Roberts, match, London, Eng., March 11, 1889. English spot-stroke game—3,304, W. J. Peal, 15,000 up, London, November 3-8, 1888.

TYPEWRITING.—Miss Mae E. Orr, writing five minutes each on legal testimony and ordinary correspondence, wrote 987 words, averaging nearly 99 words per minute—Toronto, Can., August 13, 1888. 8,709 words in 1h. 30m.; 4,294, or 95.55 per minute from dictation, and 4,415, or 98.11 per minute, from copy, 45m. each; Frank E. McGurrin, Cincinnati, July 25, 1888.

Rifle Shooting.

Where not otherwise stated, the count is Creedmore—bull's eye, 5 points.

POINTS.	DISTANCE.	NAME.	PLACE.	DATE.
75 out of 75	1,000 yds.	W. H. Jackson...............	Boston, Mass....	Aug. 13, 1879
75 “ 75	“	J. K. Milner...............	Creedmore, L. I..	Sept. 14, 1876
75 “ 75	“	C. H. Laird...............	Washington, D.C.	Oct. 18, 1879
75 “ 75	200 yds...........	Dr. W. F. Wilcox (off-hand).	Catskill, N. Y....	May 3, 1882
82 “ 84	“	G.H. Wentwort (bull's eye 12)	Dover, N. H.....	June 14, 1884
93 “ 105	800, 900 and 1,000 y.	T.J. Dolan (7 sh'ts each range)	Creedmore, L. I..	Sept. 26, 1883
98 “ 100	200 and 500 yds....	J.D. Cameron (mlt'y r. 6-lb. p'l)	Carson City, Nev.	Sept. 14, 1883
100 “ 100	200 yds............	W. M. Farrow (off-hand)....	Boston, Mass....	Oct. 15, 1882
100 “ 100	“	H. J. Bixby...............	“ “	April 6, 1880
150 “ 150	800 and 900 yds....	Cole Maudlin...............	W. Union Jct, Wis	Aug. 27, 1864
155 “ 155	200 yds........	E. F. Richardson (off-hand).	Lawrence, Mass..	July 11, 1885
191 “ 225	1,000, 1,100 & 1,200 y	Frank Hyde (15 sh. each dist.)	Brinton, N. J....	Oct. 12, 1878
198 “ 225	900, 1,000 & 1,100 y.	W.H. Jackson (15 sh. each dis)	“ “	Oct. 12, 1878
224 “ 225	800, 900 and 1,000 y.	W. Gerrish (15 sh. each dist.)	Boston, Mass....	Sept. 15, 1880
224 “ 225	“	C. W. Hinman...............	“ “	Aug. 24, 1881
224 “ 225	“	C. M. Bell...............	Chicago, Ill.....	Oct. 1, 1881
242 “ 250	500 yds............	F. R. Bull.	Springfield, Mass	Aug. —, 1886
433 “ 450	800, 900 and 1,000 y.	W.H. Jackson (30 sh. e'ch rg.)	Creedmore, L. I..	Sept. 25–26, 1878
452 “ 500	20 shots at ring targ	A. Strecker...............	San Francisco, Cal	Dec. 15, 1889
471 “ 500	200 yds.......... ..	H. Carr (off-hand, military rfl., 100 sh., 6-lb p'l, op. si'ts	“ “	Oct. 18, 1884
633 “ 675	800, 900 and 1,000 y.	W. H. Jackson	Creedmore, L. I..	Sept. 22–24, 1879
1,810 “ 2,000	200 yds...	F. Kuhnle, Sergt. Hovey, I. S. Kellogg & Nick Williams, 100 sh. each. off-hd.)	S. Francisco, Cal.	July 20, 1884
2,211 “ 2,500	“	W. Hayes...............	Newark, N. J....	Aug. 7, 1886
3,334 “ 3,600	800, 900 and 1,000 y.	Am. Team, 8 men, 30 sh. each rg.	Creedmore, L. I..	Sept. 13, 14, 1887

WALKING.

DISTANCE.	NAME.	PLACE.	DATE.	TIME.
1 mile.	W. Perkins.	London, Eng.	June 1, '74	6:23
2 "	J. W. Roby.	" "	Aug. 20, '83	13:14
3 "	" "	" "	" " "	20:21½
4 "	" "	" "	" " "	27:38
5 "	" "	" "	" " "	35:10
6 "	" "	" "	" " "	43:01
7 "	" "	" "	" " "	51:04
8 "	John Meagher	NewYork City	Nov. 29, '82	58:37
9 "	J. W. Roby	London, Eng.	Dec. 3, '83	1:07:14
10 "	" "	" "	" " "	1:14:45
20 "	W. Perkins	" "	July 1, '77	2:39:57
50 "	J. Hibbard	" "	May 14, '88	7:54:16

GREATEST DISTANCE WALKED IN AN HOUR.—8 m. 302 yds., by John Meagher, N. Y. City, Nov. 29, '82. TWO HOURS.—15 m. 824 yds., by W. Perkins, London, Eng., July 16, '77. THREE HOURS.—22 m. 456½ yds. by H. Thatcher, London, Eng. Feb. 20, '82. FOUR HOURS.—27 m. 440 yds., by W. Franks, London, Eng., Aug. 28, '82. TWENTY-FOUR HOURS.—127 m. 1,210 yds., by W. Howes, London, Eng., Feb. 23, '78.

GREATEST DISTANCE WALKED IN 72 HOURS, (12 HOURS EACH DAY).—363 miles, by C. Faber, Pittsburg, Pa., June 28, July 3, '80; also, 363 miles, by J. Scott, London, Eng., May 14, '88.

GREATEST DISTANCE WALKED WITHOUT A REST.—121 miles, 385 yds., by C. A. Harriman, Truckee, Cal., April 6–7, 1883.

ROWING.

Performances by amateurs are designated by an*.

1½ miles—*7:41, eight oars, straightaway, Atalanta Boat club, Pullman, Ill., Aug. 9, 1889. [The Cornell University crew rowed the distance in 7:03, at Philadelphia, July 4, 1889, but with current very strong.] 8:01¼, four oars, straightaway, Fairmount Rowing association, Albany, N. Y., July 21, 1886. [The Watkins crew rowed the distance in 7:46¾, at Detroit, Mich., Aug. 15, 1887, but the current was very strong.] *7:59, double scull, straightaway, J. Buckley and W. O'Connell, Portland, B. C., Lachine, Can., Aug. 21, 1882. *8:36, single scull, straightaway. Joseph Laing, Lachine, Can., Aug. 19, 1882. *8:36¼, four oars, turn, still water, Modoc Boat club, Salt Lake, Utah, Aug. 30, 1888. *8:41, pair-oared shell, straightaway, J. H. Clegg and F. D. Standish, Excelsior, B. C., Lachine, Can., Aug. 19, 1882.

2 miles—*9:43½, eight oars, straightaway, Columbia College crew, New London, Conn., June 26, 1884. *12:16, double-scull, turn, F. E. Yates and C. E. Courtney, Saratoga, N. Y., Aug. 8, 1876. *12:20¾, pair-oar, straightaway, J. H. Riley and J. A. Kennedy, Greenwood lake, N. Y., Oct. 9, 1876. *13:21½, single scull, turn, J. H. Riley, Saratoga, Aug. 9, 1876.

2½ miles—*12:57, eight oars, straightaway, Yale University crew, New London, Conn., June 29, 1888.

RAILROADING.

1 mile—50¼s, during run of special train from West Philadelphia to Jersey City, Sept. 4, 1879.

2.1 miles—1m. 30s., engine 366 and an ordinary day coach, P. and R. R. R., Yardley to Trenton Junction, N. J., March 10, 1890.

2.9 miles—2m., engine 366 and an ordinary day coach, P. and R. R. R., Somerton to Neshoay Falls, N. J., March 10, 1890.

3.1 miles—2m., engine, two parlor cars and dining-room car, P. R. R., Aberdeen to Perryman's, N. J., March 10, 1890.

4.1 miles—3m., engine 366 and an ordinary day coach, P. and R. R. R., Skillman to Belle Mead, N. J., March 10, 1890.

6.1 miles—4m. 30s., engine 366 and an ordinary day coach, P. and R. R. R., Bethayres to Neshoay Falls, N. J., March 10, 1890.

10 miles—8m. 3s., Skillman to Weston, N. J., engine 366 and one ordinary day coach, P. and R. R. R., March 10, 1890.

14 miles—11m., locomotive Hamilton Davis and six cars N. Y. Central R. R., 1855.

18 miles—15m., special train conveying the Duke of Wellington, Paddington to Slough, Eng.

27.1 miles—26m. Special Extra 953 and two cars. P. R. R., Morrisville to Germantown Junction, Pa., May 6, 1885.

36.7 miles—34m., Special Extra 953 and two cars, P. R. R., Rahway to Trenton, N. J., May 6, 1885.

44 miles—43m. 30s., special train conveying newspaper correspondents, last 16¾ miles in 14m., Washington Junction to Washington, D. C., June 10, 1884.

53¼ miles—47m., broad guage engine Great Britain, 4 carriages and vans, Paddington to Didcot, Eng., May 11, 1848.

54.9 miles—49m. 30s., engine 366 and one ordinary day coach, P. and R. R. R., Wayne Junction, Pa., to Bound Brook, N. J., March 10, 1890.

59.2 miles—56m., engine 366 and one ordinary day coach, P. and R. R. R., Philadelphia (Ninth and Green Streets), to Bound Brook, N. J., March 10, 1890.

89.4 miles—91m., (actual running time 85m.), special train, engine 366 and one ordinary day coach, P. and R. R. R., Ninth and Green Streets, Philadelphia to Jersey City, N. J., March 10, 1890.

90 miles—1h. 37m., (actual running time 90m.), Special Extra 953 and two cars, P. R. R., Jersey City to Broad st. station, Philadelphia May 6, 1885. 1h. 47m., train 19, engine 733 and six cars, two regular stops, Jersey City, N. J., to Broad street, Philadelphia, Feb. 12, 1889.

111 miles—98m., Fontaine engine and two coaches, Amherstburg to St. Thomas, Can., May 5, 1881: 109m., locomotive, baggage car, one coach and one Pullman palace car, St. Thomas to Amherstburg, Sept. 13, 1877.

118 miles—120m., engine 10, special palace car, 17 m; (Welland *to Victoria), in 14½m.* St. Thomas to Victoria, Can., 153m., Fon*taine engine* and two coaches, in 251m., St. Thomas to Victoria, *May 5, 1881.* The schedule time from London to Bristol, Eng., *118¼ miles, by the train* known as "The Flying Dutchman," i *120m.*

157.74 miles—165m., special train, Niagara Falls to Syracuse, N. Y., March 1, 1876. 158 miles in 178m., West Coast Flyer, London to Crewe, Eng., Aug. 6, 1888.

228.9 miles—4h. 18m., including stops, A. M. Palmer's special theater train, two parlor cars and a Pullman dining car, P. R. R., Jersey City to Washington, D. C., March 10, 1890. Made return trip same day in 4h. 19m.

400 miles—7h. 25m., West Coast Flyer, London to Edinburgh, Scotland, Aug. 6, 1888.

813 miles—23h. (actual running time, 19h. 30m.), special train conveying Washington newspaper correspondents from convention, Chicago, Ill., to Washington, D. C., June 7, 8, 1884.

Jersey City to San Francisco, Cal., 83h. 39m. 16s., Jarrett & Palmer's train, combination passenger, mail and baggage car and Pullman hotel car, June 1 to 4, 1876. No stop between Jersey City and Pittsburg, Pa.

SWIMMING.

BEST RECORDS.

Performances by amateurs are designated by a *. Except where otherwise stated, the following performances were accomplished in baths or in open water where the performers were not appreciably assisted by tide water or current.

24½ yards—*14¼s., A. Taylor, straightaway, Marylebone Baths, London, Eng., Oct. 3, 1882, and W. Henry, same baths, Oct. 2, 1883.

25 yards—*14⅘s., W. C. Johnson, straightaway, still water, Locust Grove, L. I., Aug. 10, 1890.

40 yards—23¼s., straightaway, J. Haggerty, Lambeth Baths, London, Eng., Aug. 19, 1886. *24⅕s., A. Taylor, Lambeth Baths, Sept. 10, 1883, and W. Blew-Jones, same, Sept. 17, 1883.

49 yards—*31s., turn, W. Blew-Jones, Marylebone Baths, London, Eng., Oct. 2, 1883.

50 yards—*33⅖s., W. C. Johnson, straightaway, still water, Locust Grove, L. I., Aug. 10, 1890.

72 yards—*48s., 2 turns, W. Henry, London, Eng., Dec. 23, 1885.

75 yards—*52⅘s., W. C. Johnson, straightaway, still water, Locust Grove, L. I., Aug. 10, 1890.

80 yards—51s., J. Haggerty, 1 turn, Lambeth Baths, London, May 6, 1887. *52s., W. Knowles, 1 turn, Lambeth Baths, London, Oct. 7, 1889. *53½s., 3 turns, W. Henry, Westminster Aquarium, London, March 7, 1887.

98 yards—*1:06⅕, W. Henry, 3 turns, London, Eng., Oct. 2, 1888.

100 yards—England: 1:05½, J. Haggerty, 4 turns, Blackburn Baths, Sept. 23, 1886. 1:05¾, J. Haggerty, straightaway, Hollingsworth Lake, Rochdale, Sept. 18, 1886. *1:06¼, J. Nuttall, 2 turns, Lambeth Baths, London, Sept. 24, 1888. America: 1:05⅕, W. C. Johnson, with light tide, straightaway, Nyack, N. Y., Aug. 28, 1890.

500 yards—6:43¼, J. Finney, 12 turns, London, Eng., Oct. 16, 1890. *7:19¼, J. Nuttall, 12 turns, Lambeth Baths, London, Sept. 6, 1886.

550 yards—*9:57⅕, A Meffert, 4 turns, Locust Grove, L. I., Sept. 8, 1889.

560 yards—7:35, J. Nuttall, 13 turns, London, Eng., Oct. 16, 1890.

600 yards—8:40, J. Finney, Westminster Aquarium, London, Eng., Dec. 19, 1883.

640 yards—8:43½, J. Nuttall, 15 turns, London, Eng., Oct. 16, 1890.

660 yards—*11:04, A. Meffert, 5 turns, Locust Grove, L. I., Sept. 8, 1889.

720 yards—9:53½, J. Nuttall, 17 turns, London, Eng., Oct. 16, 1890.

770 yards—*14:06, A. Meffert, 6 turns, Locust Grove, L. I., Sept. 8, 1889.

800 yards—11:04½, J. Nuttall, 19 turns, London, Eng., Oct. 16, 1890.

5 miles—*1.15:20, W. R. Itter, straightaway, with tide, Thames River, Eng., July 21, 1883.

20 miles—*4.59:46, Eugene Mercadier, with strong current, but in rough water and against a high wind, Alton, Ill., to St. Louis, Mo., Aug. 19, 1888.

What the White House Costs.

Salary of President	$ 50,000
Additional appropriations are about	75,000
A total of	$125,000

The President has the following corps of assistants:

Private Secretary	$ 3,250
Assistant Private Secretary	2,250
Stenographer	1,800
Five Messengers, $1,200 each	6,000
Steward	....
Two Doorkeepers, $1,200 each	2,400
Two Ushers, $1,200, $1,400	2,600
Night Usher	1,200
Watchman	900

And a few other minor clerks and telegraph operators.

SUNDRIES.

Incidental expenses	$ 8,000
White House repairs—Carpets and refurnishing	12,500
Fuel	2,500
Green-house	4,000
Gas, matches and stable	15,000

These amounts, with others of minor importance, consume *the entire appropriations.*

COST OF ROYALTY IN ENGLAND.

Pounds reduced to dollars.

The Queen — Privy purse	$300,000	
Sundries	1,629,000	
		$1,929,000
Prince of Wales		200,000
Princess		50,000
Prince Albert Victor		50,000
Crown Princess of Russia		40,000
Duke of Edinburgh		125,000
Princess Christian		30,000
Marchioness of Lorne		30,000
Duke of Connaught		125,000
Duke of Albany		125,000
Duke of Cambridge		30,000
Duchess of Mecklenburg-Strelitz		15,000
Duke of Cambridge		60,000
Duchess of Teck		25,000
Total		$2,834,000

Rules for Spelling.

Words ending in *e* drop that letter before the termination *able*, as in move, movable; unless ending in *ce* or *ge*, when it is retained, as in change, changeable, etc.

Words of one syllable, ending in a consonant, with a single vowel before it, double the consonants in derivatives; as, ship, shipping, etc. But if ending in a consonant with a double vowel before it, they do not double the consonant in derivatives; as troop, trooper, etc.

Words of more than one syllable, ending in a consonant preceded by a single vowel, and accented on the last syllable, double that consonant in derivatives; as commit, committed; but except chagrin, chagrined.

All words of one syllable ending in *l*, with a single vowel before it, have double *ll* at the close; as mill, sell

All words of one syllable ending in *l*, with a double *vowel* before it, have only one *l* at the close; as mail, sail.

The words foretell, distill, instill and fulfill, retain the *double ll* of their primitives. Derivatives of dull, skill, *will and full* also retain the *ll* when the accent falls on *these words:* as dullness, skillful, willful, fullness.

Words of more than one syllable ending in *l* have only one *l* at the close; as delightful, faithful; unless the accent falls on the last syllable; as befall, etc.

Words ending in *l*, double the letter in the termination *ly*.

Participles ending in *ing*, from verbs ending in *e*, lose the final *e;* as have, having; make, making, etc.; but verbs ending in *ee* retain both; as see, seeing. The word dye, to color, however, must retain the *e* before *ing*.

All verbs ending in *ly*, and nouns ending in *ment*, retain the *e* final of the primitives; as brave, bravely; refine, refinement; except words ending in *dge;* as acknowledge, acknowledgment.

Nouns ending in *y*, preceded by a vowel, form their plural by adding *s;* as money, moneys; but if *y* is preceded by a consonant, it is changed to *ies* in the plural; as bounty, bounties.

Compound words whose primitives end in *y*, change the *y* into *i;* as beauty, beautiful.

THE USE OF CAPITALS.

1. Every entire sentence should begin with a capital.
2. Proper names, and adjectives derived from these, should begin with a capital.
3. All appellations of the Deity should begin with a capital.
4. Official and honorary titles begin with a capital.
5. Every line of poetry should begin with a capital.
6. Titles of books and the heads of their chapters and divisions are printed in capitals.
7. The pronoun I and the exclamation O are always capitals.
8. The days of the week and the months of the year begin with capitals.
9. Every quotation should begin with a capital letter.
10. Names of religious denominations begin with capitals.
11. In preparing accounts, each item should begin with a capital.
12. *Any word of* very special importance may begin *with a capital.*

COST OF ROYALTY IN ENGLAND.

Pounds reduced to dollars.

The Queen — Privy purse	$300,000	
Sundries	1,629,000	
		$1,929,000
Prince of Wales		200,000
Princess		50,000
Prince Albert Victor		50,000
Crown Princess of Russia		40,000
Duke of Edinburgh		125,000
Princess Christian		30,000
Marchioness of Lorne		30,000
Duke of Connaught		125,000
Duke of Albany		125,000
Duke of Cambridge		30,000
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Savings Bank Compound Interest Table.

Showing the amount of $1, from 1 year to 15 years, with Compound Interest added semi-annually, at different rates.

	Ten Per cent.	Nine Per cent.	Eight Per cent.	Seven Per cent.	Six Per cent.	Five Per cent.	Four Per cent.	Three Per cent.
15 years.	$4.32	$3.74	$3.24	$2.80	$2.42	$2.09	$1.80	$1.56
14 "	3.62	3.42	2.99	2.62	2.28	1.99	1.73	1.51
13 "	3.55	3.14	2.77	2.44	2.15	1.90	1.67	1.47
12 "	3.22	2.87	2.56	2.28	2.03	1.80	1.60	1.42
11 "	2.92	2.63	2.36	2.13	1.91	1.72	1.54	1.38
10 "	2.65	2.41	2.19	1.98	1.80	1.63	1.48	1.34
9½ "	2.52	2.30	2.10	1.92	1.75	1.59	1.45	1.32
9 "	2.40	2.20	2.02	1.85	1.70	1.55	1.42	1.30
8½ "	2.29	2.11	1.94	1.79	1.65	1.52	1.39	1.28
8 "	2.18	2.02	1.87	1.73	1.60	1.48	1.37	1.26
7½ "	2.07	1.93	1.80	1.67	1.55	1.44	1.34	1.24
7 "	1.97	1.85	1.73	1.61	1.51	1.41	1.31	1.23
6½ "	1.88	1.77	1.66	1.56	1.46	1.37	1.29	1.21
6 "	1.79	1.69	1.60	1.51	1.42	1.34	1.26	1.19
5½ "	1.71	1.62	1.53	1.45	1.38	1.31	1.24	1.17
5 "	1.62	1.55	1.48	1.41	1.34	1.28	1.21	1.16
4½ "	1.55	1.48	1.42	1.36	1.30	1.24	1.19	1.14
4 "	1.47	1.42	1.36	1.31	1.26	1.21	1.17	1.12
3½ "	1.40	1.36	1.31	1.27	1.22	1.18	1.14	1.10
3 "	1.34	1.30	1.26	1.22	1.19	1.15	1.12	1.09
2½ "	1.27	1.24	1.21	1.18	1.15	1.13	1.10	1.07
2 "	1.21	1.19	1.16	1.14	1.12	1.10	1.08	1.06
1½ "	1.15	1.14	1.12	1.10	1.09	1.07	1.06	1.04
1 "	1.10	1.09	1.08	1.07	1.06	1.05	1.04	1.03
½ "	1.05	1.04	1.04	1.03	1.03	1.02	1.02	1.01

ONE DOLLAR LOANED 100 YEARS at Compound Interest would amount to the following sum:

24 per cent.	$2,351,799,404.00	10 per cent.	$13,809.00
18 "	15,145,207.00	6 "	340.00
15 "	1,174,405.00	3 "	19.25
12 "	84,675.00	1 "	2.75

Safe Business Rules.

Business men, in business hours, attend only to *business matters.* Social calls are best adapted to the social *circle. Make* your business known in few words, without *loss of time.* Let your dealings with a stranger be most carefully considered, and tried friendship duly appreciated. A mean act will soon recoil, and a man of honor will be esteemed. Leave "tricks of trade" to those whose education was never completed. Treat all with respect, confide in few, wrong no man. Be never afraid to say no, and always prompt to acknowledge and rectify a wrong. Leave nothing for to-morrow that should be done to-day. Because a friend is polite, do not think that his time is valueless. Have a place for every thing, and every thing in its place. To preserve long friendship, keep a short credit; the way to get credit is to be punctual; the way to preserve it is not to use it much. Settle often; have short accounts. Trust no man's appearances; they are often deceptive, and assumed for the purpose of obtaining credit. Rogues generally dress well. The rich are genally plain men. Be well satisfied before you give a credit that those to whom you give it are safe men to be trusted.

Time at which Money Doubles at Interest.

Rate per cent.	*Simple Interest.*	*Compound Interest.*
10	10 years.	7 years 100 days.
9	11 years 40 days.	8 years 16 days.
8	12½ years.	9 years 2 days.
7	14 years 104 days.	10 years 89 days.
6	16 years 8 months.	11 years 327 days.
5	20 years.	15 years 75 days.
4½	22 years 81 days.	15 years 273 days.
4	25 years.	17 years 246 days.
3½	28 years 208 days.	20 years 54 days.
3	33 years 4 months.	23 years 164 days.
2½	40 years.	28 years 26 days.
2	50 years.	35 years 1 day.

Legal Brevities.

A note dated on Sunday is void. A note obtained by fraud, or from one intoxicated, is void. If a note be lost or stolen, it does not release the maker, he must pay it. An endorser of a note is exempt from liability, if not served with notice of its dishonor within 24 hours of its non-payment. A note by a minor is void. Notes bear interest only when so stated. Principals are responsible *for their agents.* Each individual in partnership is re*sponsible for the* whole amount of the debts of the firm

Ignorance of the law excuses no one. It is a fraud to conceal a fraud. It is illegal to compound a felony. The law compels no one to do impossibilities. An agreement without consideration is void. Signatures in lead pencil are good in law. A receipt for money is not legally conclusive. The acts of one partner bind all the others. Contracts made on Sunday cannot be enforced. A contract with a minor is void. A contract made with a lunatic is void. Written contracts concerning land must be under seal

NUMBER OF VESSELS BUILT.

The following table gives the number and tonnage of vessels built in the world, in 1888 and 1889:

The figures for the United States do not include the tonnage built on the lakes, which are as follows: For 1888, 59 vessels with a tonnage of 100,950, and for 1889, 56 vessels with a tonnage of 124,750 were built. This puts lake shipbuilding next to that of the United Kingdom, almost doubling the tonnage of the German Empire turned out during the past two years. The number of boats built in Germany during 1888 and 1889 was, 116, and on the lakes 115, the same number, but having nearly 80,000 more tons, showing that lake boats were on an average one-third larger. Of the 2,429,152 tons, shown above, 2,064,800 tons were steel, 181,846 iron. 178,824 wood and 3,681 composite.

Countries.	1888.		1889.	
	No- Vessels.	Tonnage.	No. Vessels.	Tonnage.
United Kingdom....	484	776,993	656	1,180,349
Germany...........	37	39,994	79	101,984
United States.	73	38,198	115	84,832
France.............	14	10,721	22	42,921
British colonies.....	68	17,106	75	27,368
Denmark	5	5,721	20	[illegible]1,526
Norway	19	11,433	32	14,640
Netherlands	3	5,156	10	11,033
Italy................	8	1,798	21	7,862
Sweden	15	4,088	25	7,084
Greece	15	3,086	17	4,319
Austria..............	5	5,038	6	1,853
Russia...............	7	1,713	7	1,830
Other countries.....	12	5,478	5	1,531
Totals...........	765	926,523	1,090	1,502,629

TAX ON COMMERCIAL TRAVELERS.

The following is a list of places and amount of taxation on commercial travelers: Alabama, $15.50 per year; Arizona, $200 per year; Beaufort, S. C., $10 per visit; Bennettsville, S. C., $1 per visit; Batesburg, S. C., 75 cents per day; Charleston, S. C., $10 per month; Cumberland, Md., $1 per day; Delaware, $25 per year; Deadwood, D. T., $5 per week; Darlington, S. C., $1; East St. Louis, $2 per day; Elkton, Md., per cent. on stock carried; Florida, $25 per year; Hartwell, Ga., $5 per trip; Johnston, S. C., 50 cents per day; Lewistown, Idaho, $5 per trip; Montana, $100 per year for each county; Memphis, Tenn., $10 per week or $25 per month; Mobile, Ala., $3 per day or $7 a week; Natchez, Miss., 25 cents per day; New Orleans, La., $50 per year; Newport, Ky., $1 per month; North Carolina, $100 per year; Nevada, $100 per year; Orangeburg, S. C., $2 per day; St. Matthews, S. C., $1 per day; San Francisco, Cal., $25 per quarter; Texas, $35 a year; Tucson, Arizona, $50 per quarter; Tombstone, Arizona, $10 per day; Virginia, $75 per year; Wilmington, N. C., $3 per day; Washington, D. C., $200 per year; Walhalla, S. C., $1 per day.

Durability of Different Woods.

Experiments have been made by driving sticks, made of different woods, each two feet long and one and one-half inches square, into the ground, only one-half an inch projecting outward. It was found that in five years, all those made of oak, elm, ash, fir, soft mahogany, and nearly every variety of pine, were totally rotten. Larch, hard pine and teak wood were decayed on the outside only; while acacia, with the exception of being also slightly attacked on the exterior, was otherwise sound. Hard mahogany and cedar of Lebanon were in tolerably good condition; but only Virginia cedar was found as good as when put in the ground. This is of some importance to builders, showing what wood should be avoided, and what others used by preference in underground work.

The duration of wood, when kept dry, is very great, as

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The duration of wood, when kept dry, is very great, as beams still exist which are known to be 1,100 years old. Piles driven by the Romans prior to the Christian era, have been examined of late, and found perfectly sound, after an immersion of nearly 2,000 years

The wood of some tools will last longer than the metals; as in spades, hoes and plows. In other tools the wood is first gone; as in wagons, wheel-barrows and machines. Such wood should be painted or oiled; the paint not only looks well, but preserves the wood; petroleum oil is as good as any other;

Hardwood stumps decay in five or six years; spruce stumps decay in about the same time; hemlock stumps in eight to nine years; cedar, eight to nine years; pine stumps, never.

Cedar, oak, yellow pine and chestnut are the most durable woods in dry places.

THE STATES AND THE UNION.—THIRTEEN ORIGINAL STATES.

	States.	Ratified the Constitution.		States.	Ratified the Constitution.
1	Delaware,	1787, Dec. 7.	8	S. Carolina,	1788, May 23
2	Pennsylv'a,	1787, Dec. 12.	9	New Ham.	1788, June 21.
3	New Jersey	1787, Dec. 18.	10	Virginia,	1788, June 25.
4	Georgia,	1788, Jan. 2.	11	New York,	1788, July 26.
5	Conn.	1788, Jan. 9.	12	N. Carolina	1789, Nov. 21.
6	Mass.	1788, Feb. 6.	13	R. Island,	1790, May 29.
7	Maryland,	1788, April 28.			

STATES ADMITTED TO THE UNION.

	States.	Admitted.		States.	Admitted.
1	Vermont,	1791, March 4.	17	Wisconsin,	1848, May 29.
2	Kentucky,	1792, June 1.	18	California,	1850, Sept. 9.
3	Tennessee,	1796, June 1.	19	Minnesota,	1858, May 11.
4	Ohio.	1802, Nov. 29.	20	Oregon,	1859, Feb. 14.
5	Louisiana,	1812, April 30.	21	Kansas,	1861, Jan. 29.
6	Indiana,	1816, Dec. 11.	22	W. Virginia	1863, June 19.
7	Mississippi	1817, Dec. 10.	23	Nevada,	1864, Oct. 31.
8	Illinois,	1818. Dec. 3.	24	Nebraska,	1867, March 1.
9	Alabama,	1819, Dec- 14.	25	Colorado,	1876, Aug. 1.
10	Maine,	1820, March 15.	26	N. Dakota,	1889, Nov. 3.
11	Missouri,	1821, Aug. 10.	27	S. Dakota,	1889, Nov. 3.
12	Arkansas,	1836, June 15.	28	Montana,	1889, Nov. 8.
13	Michigan,	1937, Jan. 26.	29	Washing'n,	1889, Nov. 11.
14	Florida,	1845, March 3.	30	Idaho,	1890, July 3.
15	Texas,	1845, Dec. 29.	31	Wyoming.	1890, July 8.
16	Iowa,	1846, Dec. 28.			

RATES OF POSTAGE.

Letters.—Prepaid by stamps, 2 cents each ounce or raction thereof to all parts of the United States and Canda; forwarded to another postoffice without charge on equest of the person addressed; if not called for, returned o the writer free, if indorsed with that request. If the tamp is omitted, the letter is forwarded to the Dead etter Office, and returned to the writer. For Regisering letters the charge is 10 cents additional. Drop tters at letter-carrier offices, 2 cents per ounce or fracion thereof; at other offices, 1 cent per ounce or fraction iereof. On insufficiently prepaid matter mailed in Canda, 3 cents per ½ ounce or fraction thereof. Stamped ostal Cards, furnished only by Government, 1 cent each. f anything except a printed address slip is pasted on a ostal Card, or anything but the address written on the ce, letter postage is charged. Postage on all newspapers nd periodicals sent from newspaper offices to any part f the United States, to regular subscribers, must be paid advance at the office of mailing.

Second-Class Matter.—Periodicals issued at regular tervals—at least four times a year—and having a gular list of subscribers, with supplement, sample cops, 1 cent a pound; periodicals, other than weekly, if elivered by letter-carrier, 1 cent each; if over 2 ounces, cents each. When sent by other than publishers, for 4 unces or less, 1 cent.

Third-Class Matter (not exceeding 4 pounds).—Printed atter, books, proof-sheets, corrected or uncorrected, nsealed circulars, inclosed so as to admit of easy inspecion without cutting cords or wrapper, 1 cent for each 2 unces.

Fourth-Class Matter.—Not exceeding 4 pounds, emracing merchandise and samples, excluding liquids, oisons, greasy, inflammable or explosive articles, live nimals, insects, etc., 1 cent an ounce. Postage to Canda and British North American States, 2 cents per *unce; must be prepaid*; otherwise. 6 cents.

Number of Years Seeds Retain Their Vitality.

Vegetables.	*Years.*
Artichoke	5 to 6
Asparagus	2 to 3
Beans	2 to 3
Beets	3 to 4
Broccoli	5 to 6
Cucumber	8 to 10
Cauliflower	5 to 6
Cress	3 to 4
Carrots	2 to 3
Celery	2 to 3
Corn (on cob)	2 to 3
Endive	5 to 6
Egg Plant	1 to 2
Leek	2 to 3
Lettuce	3 to 4
Melon	8 to 10
Mustard	3 to 4
Okra	3 to 4
Onion	2 to
Pea	5 to
Pumpkin	8 to 1
Parsley	2 to
Parsnip	2 to
Pepper	2 to
Rhubarb	3 to
Squash	8 to 1
Spinach	3 to 4
Turnip	3 to 6
Tomato	2 to

HOW TO MIX PAINTS FOR TINTS

Red and Black makes	Brown
Lake and White makes	Rose
White and Brown makes	Chestnut
White, Blue and Lake makes	Purple
Blue and Lead Color makes	Pea

White and Carmine makes	Pink
Indigo and Lamp-Black makes	Silver Gray
White and Lamp-Black makes	Lead Color
Black and Venetian Red makes	Chocolate
White and Green makes	Bright Green
Purple and White makes	French White
Light Green and Black makes	Dark Green
White and Green makes	Pea Green
White and Emerald Green makes	Brilliant Green
Red and Yellow makes	Orange
White and Yellow makes	Straw Color
White, Blue and Black makes	Pearl Gray
White, Lake and Vermillion makes	Flesh Color
Umber, White and Venetian Red makes	Drab
White, Yellow and Venetian Red makes	Cream
Red, Blue, Black and Red makes	Olive
Yellow, White and a little Venetian Red makes	Buff

DEGREES OF HEAT AND COLD REQUIRED TO FREEZE, MELT AND BOIL THE FOLLOWING SUBSTANCES.

Degrees of Heat ABOVE ZERO at which the following articles Melt.

Cast Iron	3,500
Glass	2,400
Copper	2,160
Gold	1,983
Brass	1,900
Silver	1,850
Antimony	950
Zinc	780
Lead	590
Bismuth	476
Tin	420
Gutta Percha	150
Lard	96
Ice	32

Degrees of Cold ABOVE ZERO at which the following articles Freeze.

Turpentine (Spirits)	15
Strong Wine	20
Milk	29
Water	32

Degrees of Heat ABOVE ZERO at which the following articles Boil.

Blood Heat	98
Alcohol	175
Water	210
Petroleum	305
Linseed Oil	600
Quicksilver	630

Tables of Weights and Measures.

CUBIC MEASURE.

1,728 cubic inches 1 cubic foot, 27 cubic feet 1 cubic yard, 128 cubic feet 1 cord (wood), 40 cubic feet 1 ton (shipping), 2,150.42 cubic inches 1 standard bushel, 268.8 cubic inches 1 standard gallon, 1 cubic foot four-fifths of a bushel.

SURVEYOR'S MEASURE.

7.92 inches 1 link, 25 links 1 rod, 4 rods 1 chain, 10 square chains or 160 square rods 1 acre, 640 acres 1 square mile.

LONG MEASURE—DISTANCE.

3 barleycorns 1 inch, 12 inches 1 foot, 3 feet 1 yard, 5½ yards 1 rod, 40 rods 1 furlong, 8 furlongs 1 mile.

DRY MEASURE.

2 pints make 1 quart, 8 quarts make 1 peck, 4 pecks make 1 bushel, 36 bushels make 1 chaldron.

LIQUID OR WINE MEASURE.

4 gills make 1 pint, 2 pints make 1 quart, 4 quarts make *1 gallon*, 31½ gallons make 1 barrel, 2 barrels make *1 hogshead.*

APOTHECARIES' WEIGHT.

20 grains make 1 scruple, 3 scruples make 1 drachm, 8 drachms make 1 ounce, 12 ounces make 1 pound.

TROY WEIGHT.

24 grains make 1 pennyweight, 20 pennyweight make 1 ounce. By this weight, gold, silver and jewels only are weighed. The ounce and pound in this are same as in Apothecaries' weight.

AVOIRDUPOIS WEIGHT.

6 drachms make 1 ounce, 16 ounces make 1 pound, 25 pounds make 1 quarter, 4 quarters make 100 weight, 2,000 pounds make 1 ton.

CIRCULAR MEASURE.

60 seconds make 1 minute, 60 minutes make 1 degree, 30 degrees make 1 sign, 90 degrees make 1 quadrant, 4 quadrants or 360 degrees make 1 circle.

TIME MEASURE.

60 seconds make 1 minute, 60 minutes make 1 hour, 24 hours make 1 day, 7 days make 1 week, 4 weeks make 1 lunar month, 28, 29, 30, or 31 days make 1 calendar month (30 days make 1 month in computing interest), 52 weeks and 1 day, or 12 calendar months make 1 year, 365 days, 5 hours, 48 minutes, and 49 seconds make 1 solar year.

SQUARE MEASURE.

144 square inches 1 square foot, 9 square feet 1 square yard, 30¼ square yards 1 square rod, 40 square rods 1 rood, 4 roods 1 acre.

CLOTH MEASURE.

2¼ inches 1 nail, 4 nails 1 quarter, 4 quarters 1 yard.

MISCELLANEOUS.

3 *inches 1 palm, 4 inches* 1 hand, 6 inches 1 span, 18 *inches 1 cubit, 21.8* inches 1 Bible cubit, 2½ feet 1 *military pace.*

Trap Shooting.

100 single pigeons killed in succession, Al. Bandle, Hurlingham rules (except 10-gauge gun), 5 ground traps, 30 yards' rise, using fence, (80 yards) for boundary, Cincinnati, O., Dec. 25, 1888—99 pigeons killed out of 100, single, A. H. Bogardus, 30 yards' rise, 80 yards' fall, 5 ground traps, Coney Island, July 2, 1880.

94 pigeons killed out of 50 pairs, John Taylor, match, Greenville, N. J., Nov. 23, 1865.

49 birds out of 50, single, 25 yards, Miss Annie Oakley, Gloucester, N. J., July 30, 1888.

195 inanimate targets broken in succession, Rolla O. Heikes, Corry, Pa., Aug. 20, 1890.

300 glass balls broken in succession. A. H. Bogardus, Lincoln, Ill., July 4, 1877.

500 glass balls broken in 24 m. 2 s. out of 514, J. C. Haskell, two traps, 12 feet apart, 14 yards—Lynn, Mass., May 30, 1881.

501 clay pigeons broken in 34 m. 7 s. out of 543, A. H. Bogardus, loading his own guns, one bird sprung at a time and thrown fair from three to ten feet above the ground; several traps; 444 pigeons in 30 m.—Cincinnati, O., April 15, 1882.

990 glass balls broken out of 1,000 shot at, A. H. Bogardus, 3 traps, 14 yards—Bradford, Pa., Nov. 20, 1879.

1,000 glass balls broken in 1 hour 1 m. 54 s., A. H. Bogardus, loading himself, changing barrels at the end of every hundred, 15 yards, two traps, 12 feet apart—New York City, Dec. 20, 1879. In 1 h. 6 m. 59 s., A. H. Bogardus, three guns, two traps, 15 yards—London, Eng., June 26, 1878. See "Remarkable Performances"

1,003 bats killed out of 1,200, in 1 h., 11 m., Dr. W. F. Carver, four guns, loading himself, bats thrown up in pairs—New Orleans, La., March 9, 1884.

5,500 glass balls broken in 7 h. 19 m. 2 s. out of 5,854 shot at—A. H. Bogardus, 15 yards, two traps, 12 feet apart, changing barrels about 54 times. He broke 1,500 balls in 1 h. 37 m. 20 s., 2,000 in 2 h. 14 m. 43 s., 3,000 in 3 h. 34 m. 40 s., 3,500 in 4 h. 10 m., 16 s., 4,000 in 4 h. 48 m. 43 s., 4,500 in 5 h. 32 m. 45 s., and 5,000 in 6 h. 22 m. 30 s.—New York City, Dec. 20, 1879. In 7 h. 30 m. 30 s., out of 6,222 shot at, W. F. Carver, Winchester repeating rifles, assistants loading—Brooklyn, N. Y., July 13, 1878.

64,017 balls broken with rifle between 6:30 a. m., Sept. 7, and *5:30 p. m.*, Sept. 12, 1889—B. A. Bartlett, International Fair, *Buffalo*, N. Y., 60,000 wooden balls hit out of 60,670 shot at—*W. F. Carver*, Minneapolis, Minn., Dec. 24 to 30, 1888.

POLITICAL INFORMATION.

Result of the Electoral College proceedings by States from 1789 to and including 1885.

1789, Washington and Adams—Washington had the votes of all the states, viz., New Hampshire, Massachussetts, Connecticut, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, South Carolina and Georgia; total, 69 votes.

Adams had all of New Hampshire, Massachusetts, 5 of the 7 of Connecticut, 1 of the 6 of New Jersey, 8 of the 10 of Pennsylvania, 5 of the 10 of Virginia; total, 34.

1793, Washington and Adams—Washington had the votes of all the states, viz., New Hampshire, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, Kentucky, North Carolina, South Carolina and Georgia; total, 132.

Adams carried all these states with the exception of New York, Virginia, Kentucky, North Carolina and Georgia; total, 77 votes.

1797, Adams and Jefferson—Adams had the votes of New Hampshire, Massachusetts, Rhode Island, Connecticut, Vermont, New York, New Jersey, Delaware, 1 of the 15 of Pennsylvania, 1 of the 20 of Virginia, 1 of the 12 of North Carolina, and 7 of the 11 of Maryland; total 71.

Thomas Jefferson had 14 of the 15 votes of Pennsylvania, 4 of the 11 of Maryland, 20 of the 21 of Virginia, Kentucky, 11 of the 12 of North Carolina, Tennessee, Georgia and South Carolina; total, 68.

1801, Jefferson and Burr—Had the votes of the states of New York, 8 of the 15 of Pennsylvania, 5 of the 10 of Maryland, Virginia, Kentucky, 8 of the 12 of North Carolina, Tennessee, South Carolina and Georgia; total, 73. House decided Jefferson President, and Burr Vice-President.

Adams and Pinckney—Had the votes of the states of New Hampshire, Massachusetts, Rhode Island, Connecticut, Vermont, New Jersey, 7 of the 15 of Pennsylvania, Delaware, 5 of the 10 of Maryland, and 4 of the 12 of North Carolina; total, 65.

1805, Jefferson and Clinton—Had the votes of states of New Hampshire, Massachusetts, Rhode Island, Vermont, New York, New Jersey, Pennsylvania, Maryland, Virginia, North Carolia, South Carolina, Georgia, Tennessee, Kentucky and Ohio; total, 162.

Pinckney and King—Had the votes of states Connecticut, Delaware, and 2 of the 11 of Maryland; total, 14.

1809, Madison and Clinton—Had the votes of the states of Vermont, New York, New Jersey, Pennsylvania, 9 of the 11 of Maryland, Virginia, 11 of the 14 of North Carolina, South Carolina, Georgia, Kentucky, Tennessee and Ohio; total, 122.

Pinckney and King—Had the votes of the states of New York, Massachusetts, Rhode Island, Connecticut, Delaware, 2 of the 11 of Maryland and 3 of the 14 of North Carolina; total, 47.

1813, Madison and Gerry—Carried Vermont, Pennsylvania, 6 of the 11 of Maryland, Virginia, North Carolina, South Carolina, Georgia, Kentucky, Tennessee, Ohio and Louisiana; total 128.

CLINTON AND INGERSOLL—Had the votes of the states of New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware and 5 of the 11 of Maryland; total 89.

1817, MONROE AND TOMPKINS—Had the votes of the states of New Hampshire, Rhode Island, Vermont, New York, New Jersey, Pennsylvania, Maryland, Virginia, North Carolina, South Carolina, Georgia, Kentucky, Tennessee, Ohio, Louisiana and Indiana; total 183.

KING AND HOWARD—Had the votes of the states of Massachusetts, Connecticut and Delaware; total 34.

1821, MONROE AND TOMPKINS—Had the votes of every state in the Union; total 231.

ADAMS AND STOCKTON—Adams had 1 vote of the 8 of New Hampshire, and Stockton 8 of the 15 of Massachusetts.

1825, ADAMS AND CALHOUN—Had the votes of the states of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, Vermont, 26 of the 36 of New York, 1 of the 3 of Delaware, 3 of the 11 of Maryland, 2 of the 5 of Louisiana, and 1 of the 3 of Illinois; total 84 for Adams. Calhoun for Vice-President carried several states that Adams did not carry, and had a total of 182 votes.

CRAWFORD—Had 5 of the 36 votes of New York, 2 of the 3 of Delaware, and 1 of the 11 of Maryland, Virginia and Georgia; total 41.

JACKSON—Had 1 of the 36 votes of New York, New Jersey, Pennsylvania, 7 of the 11 of Maryland, North Carolina, South Carolina, Tennessee, 3 of the 5 of Louisiana, Mississippi, Indiana, Illinois and Alabama; total 99.

CLAY—Had 4 of the 36 votes of New York, Kentucky, Ohio and Missouri; total 37.

No choice by the electoral college, it devolving upon House of Representatives. A choice was reached on first ballot as follows: Adams—Connecticut, Illinois, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Missouri, New Hampshire, New York, Ohio, Rhode Island and Vermont; 13 states. Jackson—Alabama, Indiana, Missouri, New Jersey, Pennsylvania, South Carolina and Tennessee; 7 states. Crawford—Delaware, Georgia, North Carolina and Virginia; 4 states.

1829—JACKSON AND CALHOUN—Had 1 of the votes of the 9 of Maine, 20 of the 36 of New York, Pennsylvania, 5 of the 11 of Maryland, Virginia, North Carolina, South Carolina, Georgia, Kentucky, Tennessee, Ohio, Indiana, Mississippi, Illinois, Alabama and Missouri; total 178.

ADAMS AND RUSH—Had 8 of the 9 votes of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, Vermont, 16 of the 36 of New York, New Jersey, Delaware, and 6 of the 11 f Maryland; total 83.

1833, JACKSON AND VAN BUREN—Had the votes of Maine, ew Hampshire, New York, New Jersey, Pennsylvania, 3 of the of Maryland, Virginia, North Carolina, Georgia, Tennessee

Ohio, Louisiana, Mississippi, Indiana, Illinois, Alabama and Missouri; total 219.

Clay and Sergeant—Had the votes of the states of Massachusetts, Rhode Island, Connecticut, Delaware, 5 of the 8 of Maryland, and Kentucky; total 49.

1837, Van Buren and Johnson—Had the votes of the states of Maine, New Hampshire, Rhode Island, Connecticut, New York, Pennsylvania, Virginia, North Carolina, Louisiana, Mississippi, Illinois, Alabama, Missouri, Arkansas and Michigan; total 170.

Harrison and Granger—Had the votes of the states of Vermont, New Jersey, Delaware, Maryland, Kentucky, Ohio and Indiana; total 73.

1841, Harrison and Tyler—Had the votes of the states of Maine, Massachusetts, Rhode Island, Connecticut, Vermont, New York, New Jersey, Pennsylvania, Delaware, Maryland, North Carolina, Georgia, Kentucky, Tennessee, Ohio, Louisiana, Mississippi, Indiana and Michigan; total 234.

Van Buren—Had the votes of the states of New Hampshire, Virginia, South Carolina, Illinois, Alabama, Missouri and Arkansas; total 60.

1845, Polk and Dallas—Had the votes of the states of Maine, New Hampshire, New York, Pennsylvania, Virginia, South Carolina, Georgia, Louisiana, Mississippi, Indiana, Illinois, Alabama, Missouri, Arkansas and Michigan; total 170.

Clay and Frelinghuysen—Had the votes of the states of Rhode Island, Connecticut, Vermont, New Jersey, Delaware, Maryland, North Carolina, Kentucky, Tennessee and Ohio; total 105.

1849, Taylor and Fillmore—Had the votes of the states of Massachusetts, Rhode Island, Connecticut, Vermont, New York, New Jersey, Pennsylvania, Delaware, Maryland, North Carolina, Georgia, Kentucky, Tennessee, Louisiana and Florida; total 163.

Cass and Butler—Had the votes of the states of Maine, New Hampshire, Virginia, South Carolina, Ohio, Mississippi, Indiana, Illinois, Alabama, Missouri, Arkansas, Michigan, Texas, Iowa and Wisconsin; total 127.

1853, Pierce and King—Had the votes of the states of Maine, New Hampshire, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Ohio, Louisiana, Mississippi, Indiana, Illinois, Alabama, Missouri, Arkansas, Michigan, Florida, Texas, Iowa, Wisconsin and California; total 254.

Scott and Graham—Had the votes of the states of Massachusetts, Vermont, Kentucky and Tennessee; total 42.

1857, Buchanan and Breckinridge—Had the votes of the states of New Jersey, Pennsylvania, Delaware, Virginia, North Carolina, South Carolina, Georgia, Kentucky, Tennessee, Louisiana, Mississippi, Indiana, Illinois, Alabama, Missouri, Arkansas, Florida, Texas and California; total 174.

Fremont and Dayton—Had the votes of the states of Main New Hampshire, Massachusetts, Rhode Island, Connectic

Vermont, New York, Ohio, Michigan, Iowa and Wisconsin; total 114.

Fillmore and Donelson—Had the votes of the state of Maryland; total 8.

1861, Lincoln and Hamlin—Had the votes of the states of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, Vermont, New York, 4 of the 7 of New Jersey, Pennsylvania, Ohio, Indiana, Illinois, Michigan, Iowa, Wisconsin, California, Minnesota and Oregon; total 180.

Breckinridge and Lane—Had the votes of the states of Delaware, Maryland, North Carolina, South Carolina, Georgia, Louisiana, Mississippi, Alabama, Arkansas, Florida and Texas; total 72.

Douglas and Johnson—Had the votes of the states of Missouri, and 3 of the 7 of New Jersey; total 12.

Bell and Everett—Had the votes of the states of Virginia, Kentucky and Tennessee; total 39.

1865, Lincoln and Johnson—Had the votes of the states of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, Vermont, New York, Pennsylvania, Maryland, Ohio, Indiana, Illinois, Missouri, Michigan, Wisconsin, Iowa, California, Minnesota, Oregon, Kansas, West Virginia and Nebraska; total 212.

McClellan and Pendleton—Had the votes of the states of New Jersey, Delaware and Kentucky; total 21.

Eleven states did not vote, viz.: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas and Virginia.

1869, Grant and Colfax—Had the votes of the states of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, Pennsylvania, North Carolina, South Carolina, Alabama, Ohio, Tennessee, Indiana, Illinois, Missouri, Arkansas, Michigan, Florida, Iowa, Wisconsin, California, Minnesota, Kansas, West Virginia, Nevada and Nebraska; total 214.

Seymour and Blair—Had the votes of the states of New York, New Jersey, Delaware, Maryland, Georgia, Louisiana, Kentucky and Oregon; total 80.

Three states did not vote, viz.: Mississippi, Texas and Virginia.

1873, Grant and Wilson—Had the votes of the states of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Virginia, North Carolina, South Carolina, Alabama, Ohio, Indiana, Illinois, Mississippi, Michigan, Florida, Iowa, Wisconsin, California, Minnesota, Oregon, Kansas, West Virginia, Nebraska and Nevada; total 286.

Greeley and Brown—Had the votes of the states of Maryland, Georgia, Kentucky, Tennessee, Missouri and Texas; total 63.

Three electoral votes of Georgia cast for Greeley, and the votes of Arkansas, 6, and Louisiana, 8, cast for Grant, were rejected.

1877, Hayes and Wheeler—Had the votes of the states of

Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Pennsylvania, South Carolina, Ohio, Louisiana, Illinois, Michigan, Florida, Iowa, Wisconsin, California, Minnesota, Oregon, Kansas, Nevada, Nebraska and Colorado; total 185.

TILDEN AND HENDRICKS—Had votes of Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, Georgia, Alabama, Kentucky, Tennessee, Indiana, Missouri, Arkansas, Mississippi, Texas and West Virginia; total 184.

1881. GARFIELD AND ARTHUR—Had votes of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, Ohio, Indiana, Illinois, Michigan, Iowa, Wisconsin, 1 of the 6 of California, Minnesota, Oregon, Kansas, Nebraska and Colorado; total 214.

HANCOCK AND ENGLISH—Had votes of New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Alabama, Louisiana, Kentucky, Tennessee, Missouri, Arkansas, Mississippi, Florida, Texas, 5 of the 6 of California, West Virginia and Nebraska; total 155.

1884. CLEVELAND AND HENDRICKS—Had votes of Alabama, Arkansas, Connecticut, Delaware, Florida, Georgia, Indiana, Kentucky, Louisiana, Maryland, Mississippi, Missouri, New Jersey, New York, North Carolina, South Carolina, Tennessee, Texas, Virginia, West Virginia; total 203.

BLAINE AND LOGAN—Had votes of California, Colorado, Illinois, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Nebraska, Nevada, New Hampshire, Ohio, Oregon, Pennsylvania, Rhode Island, Vermont, Wisconsin; total 166.

1888. HARRISON AND MORTON—Had votes of California, Colorado, Illinois, Indiana, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Nebraska, Nevada, New Hampshire, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Vermont, Wisconsin; total 233.

CLEVELAND AND THURMAN—Had votes of Alabama, Arkansas, Connecticut, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, New Jersey, North Carolina, South Carolina, Tennessee, Texas, Virginia, W. Va.; total 168.

VOTE BY STATES.

ALABAMA—1824, Dem. maj. 5,280; 1828, Dem. maj. 15,200; 1836, Dem. maj. 3,431; 1840, Dem. maj. 5,520; 1844, Dem. maj. 11,656; 1848, Dem. maj. 881; 1852, Dem. maj. 11,843; 1856, Dem. maj. 18,187; 1860, Dem. maj. 7,355; 1868, Rep. maj. 4,278; 1872, Rep. maj. 10,828; 1876, Dem. maj. 33,772; 1880, Dem. maj. 29,867; 1884, Dem. plur. 33,529; 1888, Dem. plur. 60,113.

ARKANSAS—1836, Dem. maj. 1,162; 1840, Dem. maj. 889; 1844, Dem. maj. 4,042; 1848, Dem. maj. 1,712; 1852, Dem. maj. 4,769; 1856, Dem. maj. 11,123; 1860, Dem. maj. 3,411; 1868, Rep. maj. 3,034; 1872, Rep. maj. 3,446; 1876, Dem. maj. 19,113; 1880, Dem. maj. 14,749; 1884, Dem. plur. 22,208; 1888, Dem. plur. 27,210.

CALIFORNIA—1852, Dem. maj. 5,119; 1856, Dem. plur. 17,200; 1870, Rep. plur. 657; 1864, Rep. maj. 18,293; 1868, Rep. maj. 506; 1872, Rep. maj. 12,234; 1876, Rep. maj. 2,738; 1880, Dem. plur. 78; 1884, Rep. plur. 13,128; 1888, Rep. plur. 7,080.

COLORADO—1880, Rep maj. 1,368; 1884, Rep maj. 8,567; 1888, Rep plur. 13,224.

CONNECTICUT—1824, Loose Constructionist (Rep.) majority 5,609; 1828, Loose Constructionist (Rep.) majority 9,381; 1832, Loose Constructionist (Rep.) majority 6,486; 1836, Dem. majority 768; 1840, Whig (Rep.) majority 6,131; 1844, Whig (Rep.) majority 1,048; 1848, Whig (Rep.) plurality 3,268; 1852, Dem. plurality 2,892; 1856, Rep. majority 5,105; 1860, Rep. majority 10,238; 1864, Rep. majority 2,406; 1868, Rep. majority 3,043; 1872, Rep. majority 4,348; 1876, Dem majority 1,712; 1880, Rep. majority 1,788; 1884, Dem plurality 1,274; 1888, Dem plurality 336.

DELAWARE—1828, Loose Constructionist (Rep.) majority 420; 1832, Loose Constructionist (Rep.) majority 166; 1836, Whig (Rep.) majority 583; 1840, Whig (Rep.) majority 1,083; 1844, Whig (Rep.) majority 282; 1848, Whig (Rep.) majority 443; 1852, Dem. plurality 25; 1856, Dem. majority 1,521; 1860, Dem. plurality 3,483; 1864, Dem. majority 612; 1868, Dem. majority 3,357; 1872, Rep. majority 422; 1876, Dem. majority 2,629; 1880, Dem. majority 1,023; 1884, Dem plurality 423; 1888, Dem plurality 3,441.

FLORIDA—1848, Whig (Rep.) majority 1,269; 1852, Dem. majority 1,443; 1856, Dem majority 1,525; 1860, Dem. majority 8,739; 1872, Rep. majority 2,336; 1876, Rep. majority 926; 1880, Dem maj. 4,310; 1884, Dem plur. 3,738; 1888, Dem plur. 12,902.

GEORGIA—1836, Whig (Rep.) majority 2,804; 1840, Whig (Rep.) majority 8,328; 1844, Dem majority 2,071; 1848, Whig (Rep) majority 2,742; 1852, Dem majority 18,045; 1856, Dem majority 14,350; 1860, Dem plurality 9,003; 1868, Dem majority 45,588; 1872, Dem maj. 9,806; 1876, Dem maj. 79,642; 1880, Dem maj. 4,199; 1884, Dem plur. 46,961; 1888, Dem plur. 60,029.

ILLINOIS—1824, Dem plurality 359; 1828, Dem majority 5,182; 1832, Dem majority 8,718; 1836, Dem majority 3,114; 1840, Dem majority 1,790; 1844, Dem majority 8,822; 1848, Dem plurality 3,253; 1852, Dem majority 5,697; 1856, Dem plurality 9,159; 1860, Rep majority 5,629; 1864, Rep majority 30,766; 1868, Rep majority 51,160; 1872, Rep majority 53,948; 1876, Rep majority 1,971; 1880, R. maj. 14,358; 1884, R. plur. 25,122; 1888, R. plur. 22,042.

INDIANA—1824, Dem plurality 2,028; 1828, Dem majority 5,185; 1832, Dem majority 16,080; 1836, Whig (Rep) majority 8,801; 1840, Whig (Rep) majority 13,607; 1844, Dem majority 208; 1848, Dem plurality 4,838; 1852, Dem majority 7,510; 1856, Dem majority 1,909; 1860, Rep majority 5,923; 1864, Rep majority 20,189; 1868, Rep majority 9,568; 1872, Rep majority 21,098; 1876, Dem plurality 5,515; 1880, Rep plurality 6,641; 1884, Dem plurality 6,527; 1888, Rep plurality 2,348.

IOWA—1848, Dem plurality 1,009; 1852, Dem majority 303; 1856, Rep plurality 7,784; 1860, Rep majority 12,487; 1864, Rep majority 39,479; 1868, Rep majority 46,359; 1872, Rep majority 58,149; 1876, Rep majority 50,191; 1880, Rep majority 45,732; 1884, Rep plurality 19,796; 1888, Rep plurality 31,721.

KANSAS—1864, Rep majority 12,750; 1868. Rep majority

17,058; 1872, Rep. maj. 33,482; 1876, Rep. maj. 32,511; 1880, Rep. maj. 42,021; 1884, Rep. plur. 64,274; 1888, Rep. plur. 79,961.

KENTUCKY—1824, Loose Constructionist (Rep) majority 10,329; 1828, Dem majority 7,912; 1832, Loose Constructionist (Rep) majority 7,149; 1836, Whig (Rep) majority 5,520; 1840, Whig (Rep) majority 25,873; 1844, Whig (Rep) majority 9,267; 1848, Whig (Rep) majority 17,421; 1852, Whig (Rep) majority 2,997; 1856; Dem majority 6,912; 1860, Constitutional Union plurality 12,915; 1864, Dem majority 36,515; 1868, Dem majority 76,324; 1872, Dem maj. 8,855; 1876, Dem maj. 59,772; 1880, Dem maj. 31,951; 1884, Dem plur. 34,839; 1888, Dem plur. 38,666.

LOUISIANA—1828, Dem. majority 508; 1832, Dem. majority 1,521; 1836, Dem. majority 270; 1840, Whig (Rep.) majority 3,680; 1844, Dem. majority 699; 1848, Whig (Rep.) majority 2,847; 1852, Dem. majority 1,392; 1856, Dem. majority 1,455; 1860, Dem. plurality 2,477; 1868, Dem. majority 46,962; 1872, Rep. majority 14,634; 1876, Rep. majority 4,499; 1880, Dem. majority 33,419; 1884, Dem plur. 16,250; 1888, Dem plur. 54,760.

MAINE—1824, Loose Constructionist (Rep.) majority 4,540; 1828, Loose Constructionist (Rep.) majority 6,848; 1840, Whig (Rep.) majority 217; 1844, Dem. majority 6,505; 1848, Dem. plurality 4,755; 1852, Dem. majority 1,036; 1856, Rep. majority 24,974; 1860, Rep. majority 27,704; 1864, Rep. majority 17,592; 1868, Rep. majority 28,033; 1872, Rep. majority 32,355; 1876, Rep. majority 15,814; 1880, Rep. majority 4,460; 1884, Rep. plurality 20,069; 1888, Rep plur. 23,252.

MARYLAND—1824, Loose Constructionist (Rep.) plurality 109; 1828, Loose Constructionist (Rep.) majority 1,181; 1832, Loose Constructionist (Rep.) majority 4; 1836, Whig (Rep.) majority 3,685; 1840, Whig (Rep.) majority 4,776; 1844, Whig (Rep.) majority 3,308; 1848, Whig (Rep.) majority 3,049; 1852, Dem. majority 4,900; 1856, Know-Nothing majority 8,064; 1860, Dem. plurality 722; 1864, Rep. majority 7,414; 1868, Dem. majority 31,919; 1872, Dem. majority 908; 1876, Dem. majority 19,756; 1880, Dem. majority 15,191; 1884, Dem plur. 11,305; 1888, Dem. plur. 6,182.

MASSACHUSETTS—1824, Loose Constructionist (Rep.) majority 24,071; 1828, Loose Constructionist (Rep.) majority 22,817; 1832, Loose Constructionist (Rep.) majority 18,458; 1836, Whig (Rep.) majority 7,592; 1840, Whig (Rep.) majority 19,305; 1844, Whig (Rep.) majority 2,712; 1848, Whig (Rep.) plurality 23,014; 1852, Whig (Rep.) plurality 8,114; 1856, Rep. majority 49,324; 1860, Rep. majority 43,981; 1864, Rep. majority 77,997; 1858, Rep. majority 77,069; 1872, Rep. majority 74,212; 1876, Rep. majority 40,423; 1880, Rep maj. 49,097; 1884, Rep plur. 24,372; 1888, Rep plur., 31,457.

MICHIGAN—1836, Dem. majority 3,360; 1840, Whig (Rep.) majority 1,514; 1844, Dem. plurality 3,423; 1848, Dem. plurality 6,747; 1852, Dem. majority 746; 1856, Rep. majority 17,966; 1860, Rep. majority 22,213; 1864, Rep. majority 16,917; 1868, Rep. majority 31,481; 1872, Rep. majority 55,[illegible]; 1876, Rep.

majority 15,542; 1880, Rep. majority 19,095; 1884, Rep. plurality 3,308; 1888, Rep plurality 22,903.

MINNESOTA—1860, Rep. majority 9,339; 1864, Rep. majority 7,685; 1868, Rep. majority 15,470; 1872, Rep. majority 20,694; 1876, Rep. majority 21,780; 1880, Rep. majority 40,588; 1884, Rep. plurality 38,738; 1888, Rep plurality 36,695.

MISSISSIPPI—1824, Dem. majority 1,421; 1828, Dem. majority 5,182; 1832, Dem majority 5,919; 1836, Dem majority 291; 1840, Whig (Rep) majority 2,523; 1844, Dem majority 5,920; 1848, Dem majority 615; 1852, Dem majority 9,328; 1856, Dem majority 11,251; 1860, Dem majority 12,474; 1872, Rep majority 34,887; 1876, Dem majority 59,568; 1880, Dem majority 35,099; 1884, Dem plurality 33,001; 1888, Dem plurality 55,375.

MISSOURI—1824, Loose Constructionist (Rep) majority 103; 1828, Dem majority 4,810; 1832, Dem majority 5,192; 1836, Dem majority 2,658; 1840, Dem majority 6,788; 1844, Dem majority 10,118; 1848, Dem majority 7,406; 1852, Dem majority 8,369; 1856, Dem majority 9,640; 1860, Dem plurality 429; 1864, Rep majority 41,072; 1868, Rep majority 21,232; 1872, Dem majority 29,809; 1876, Dem majority 54,389; 1880, Dem majority 19,997; 1884, Dem plurality 33,059; 1888, Dem plurality 25,701.

NEBRASKA—1868, Rep majority 4,290; 1872, Rep majority 10,517; 1876, Rep majority 10,326; 1880, Rep majority 22,603; 1884, Rep plurality 22,512; 1888, Rep plurality 27,873.

NEVADA—1864, Rep majority 3,232; 1868, Rep majority 1,262; 1882, Rep majority 2,177; 1876, Rep majority 1,075; 1880, Dem majority 879; 1884, Rep plurality 1,615; 1888, Rep plurality 1,939.

NEW HAMPSHIRE—1824, Loose Constructionist (Rep) majority 3,464; 1828, Loose Constructionist (Rep) majority 3,384; 1832, Dem majority 6,476; 1836, Dem plurality 12,494; 1840, Dem majority 6,386; 1844, Dem majority 5,133; 1848, Dem majority 5,422; 1852, Dem majority 7,155; 1856, Rep majority 5,134; 1860, Rep majority 9,085; 1864, Rep majority 3,529; 1868, Rep majority 6,967; 1872, Rep majority 5,444; 1876, Rep majority 2,954; 1880, Rep maj. 3,530; 1884, Rep plur. 4,059; 1888, Rep plur. 2,370.

NEW JERSEY—1824, Dem majority 679; 1820, Loose Constructionist (Rep) majority 1,808; 1832, Dem majority 463; 1836, Whig (Rep) majority 545; 1840, Whig (Rep) majority 2,248; 1844, Whig (Rep) majority 692; 1848, Whig (Rep) majority 2,285; 1852, Dem majority 5,399; 1856, Dem plurality 18,605; 1860, Dem majority 4,477; 1864, Dem majority 7,301; 1868, Dem majority 2,870; 1872, Rep majority 14,570; 1876, Dem majority 11,690; 1880, Dem plurality 2,010; 1884, Dem plurality 4,412; 1888, Dem plurality 7,149.

NEW YORK—1828, Dem majority 4,350; 1832, Dem majority 13,601; 1836, Dem majority 28,272; 1840, Whig (Rep) majority 10,500; 1844, Dem plurality 5,106; 1848, Whig (Rep) majority 98,093; 1852, Dem majority 1,872; 1856, Rep plurality 80,129; 1860, Rep majority 50,136; 1864, Rep majority 6,749; 1868, Dem majority 10,000; 1872, Rep majority 51,800; 1876, Dem majority 26,568; 1880, Rep majority 8,660; 1884, Dem plurality 1,148; 1888, Rep plurality 14,373.

NORTH CAROLINA—1824, Dem majority 4,794; 1828, Dem majority 23,939; 1832, Dem majority 20,299; 1836, Dem majority

3,284; 1840, Whig (Rep) majority 12,158; 1844, Whig (Rep) majority 3,945; 1848, Whig (Rep) majority 8,681; 1852, Dem majority 627; 1856, Dem majority 11,360; 1860, Dem majority 648; 1868, Rep. majority 12,168; 1872, Rep majority 24,675; 1876, Dem majority 17,010; 1880, Dem. majority 8,326; 1884, Dem plurality 17,884; 1888, Dem plurality 13,118.

OHIO—1824, Loose Constructionist (Rep) plurality 798; 1828, Dem majority 4,201; 1832, Dem majority 4,707; 1836, Whig (Rep) majority 8,457; 1840, Whig (Rep) majority 22,472; 1844, Whig (Rep) plurality 5,940; 1848, Dem plurality 16,415; 1852, Dem plurality 16,694; 1856, Rep plurality 16,623; 1860, Rep majority 20,779; 1864, Rep majority 59,586; 1868, Rep majority 41,617; 1872, Rep majority 34,268; 1876, Rep majority 2,747; 1880, Rep majority 27,771; 1884, Rep plur., 31,802; 1888, Rep plur. 19,599.

OREGON—1860, Rep plurality 1,318; 1864, Rep majority 1,431; 1868, Dem majority 164; 1872, Rep majority 3,517; 1876, Rep majority 547; 1880, Rep majority 422; 1884, Rep plurality 2,256; 1888, Rep plurality 6,769.

PENNSYLVANIA—1824, Dem majority 24,845; 1828, Dem majority 50,804; 1832, Dem majority 34,267; 1836, Dem majority 4,364; 1840, Whig (Rep) majority 2; 1844, Dem. majority 3,194; 1848, Whig (Rep) majority 3,074; 1852, Dem majority 10,869; 1856, Dem majority 1,025; 1860, Rep majority 59,618; 1864, Rep majority 20,075; 1868, Rep majority 28,898; 1872, Rep majority 135,918; 1876, Rep majority 9,375; 1880, Rep majority 16,608; 1884, Rep plurality 81,019; 1888, Rep plurality 79,458.

RHODE ISLAND—1824, Loose Constructionist (Rep) majority 1,945; 1828, Loose Constructionist (Rep) majority 1,933; 1832, Loose Constructionist (Rep) majority 684; 1836, Dem majority 254; 1840, Whig (Rep) majority 1,935; 1844, Whig (Rep) majority 2,348; 1848, Whig (Rep) majority 2,403; 1852, Dem majority 465; 1856, Rep majority 3,112; 1860, Rep majority 4,537; 1864, Rep. majority 5,222; 1868, Rep majority 6,445; 1872, Rep majority 8,336; 1876, Rep majority 4,947; 1880, Rep majority 7,180; 1884, Rep plurality 6,639; 1888, Rep plurality 4,427.

SOUTH CAROLINA—1868, Rep majority 17,064; 1872, Rep majority 49,400; 1876, Rep majority 964; 1880, Dem majority 54,241; 1884, Dem plurality 48,112; 1888, Dem plurality 52,085.

TENNESSEE—1824, Dem majority 19,669; 1828, Dem majority 41,850; 1832, Dem majority 27,304; 1836, Whig (Rep) majority 9,842; 1840, Whig (Rep) majority 12,102; 1844, Whig (Rep) majority 113; 1848, Whig (Rep) majority 6,286; 1852, Whig (Rep) majority 1,880; 1856, Dem majority 7,460; 1860, Constitutipnal Union plurality 4,565; 1868, Rep majority 30,499; 1882, Dem majority 8,736; 1876, Dem majority 43,600; 1880, Dem majority 14,598; 1884, Dem plurality 8,275; 1888, Dem plurality 18,798.

TEXAS—1848, Dem majority 6,150; 1852, Dem majority 8,557; 1856, Dem majority 15,530; 1860, Dem majority 32,110; 1872, *Dem majority 16,595;* 1876, Dem majority 59,955; 1880, Dem majority 70,878; 1884, Dem plur. 132,168; 1888, Dem plur. 146,603.

Vermont—1828, Loose Constructionist (Rep) majority 16,579; 1832, Loose Constructionist (Rep) majority 3,282; 1836, Whig (Rep) majority 6,954; 1840, Whig (Rep) majority 14,117; 1844, Whig (Rep) majority 4,775; 1848, Whig (Rep) plurality 9,285; 1852, Whig (Rep) majority 508; 1856, Rep majority 28,447; 1860, Rep majority 24,772; 1864, Rep majority 29,098; 1868, Rep majority 32,122; 1872, Rep. maj. 29,961; 1876, Rep maj. 23,838; 1880, Rep maj. 26,036; 1884, Rep plur. 22,183; 1888, Rep plur. 28,404.

Virginia—1824, Dem majority 2,023; 1828, Dem majority 14,651; 1832, Dem majority 22,158; 1836, Dem majority 6,893; 1840, Dem majority 1,392; 1844, Dem majority 5,893; 1848, Dem majority 1,453; 1852, Dem majority 15,286; 1856, Dem majority 29,105; 1860, Constitutional Union plurality 358; 1872, Rep majority 1,772; 1876, Dem majority 44,112; 1880, Regular Dem majority 12,810; Dem plur. 6,315; 1888, Dem plur. 1,539.

West Virginia—1864, Rep majority 12,714; 1868, Rep majority 8,869; 1872, Rep majority 2,264; 1876, Dem majority 12,384; 1880, Dem maj. 2,069; 1884, Dem plur. 4,221; 1888, Dem plur. 839.

Wisconsin—1848, Dem plurality 1,254; 1852, Dem majority 2.604; 1856, Rep majority 12,668; 1860, Rep majority 20,040; 1864, Rep majority 17,574; 1868, Rep majority 24,150; 1872, Rep majority 17,686; 1876, Rep majority 5,205; 1880, Rep majority 21,783; 1884, Rep plur. 14,693; 1888, Rep plur. 21,271.

POPULAR VOTE.

For Presidential candidates from 1824 to and including 1885. Prior to 1824 electors were chosen by the legislatures of the different states.

1824, J. Q. Adams—Had 105,321 to 155,872 for Jackson, 44,282 for Crawford, and 46,587 for Clay. Jackson over Adams, 50,551. Adams less than combined vote of others, 140,869. Of the whole vote Adams had 29.92 per cent., Jackson 44.27, Clay 13.23, Crawford 13.23. Adams elected by House of Representatives.

1828, Jackson—Had 647,231 to 509,097 for Adams. Jackson's majority, 138,134. Of the whole vote Jackson had 55.97 per cent., Adams 44.03.

1832, Jackson—Had 687,502 to 530,189 for Clay, and 33,108 for Floyd and Wirt combined. Jackson's majority, 124,205. Of the whole vote Jackson had 54.96 per cent., Clay 42.39, and the others combined 2.65.

1836, Van Buren—Had 761,549 to 736,656, the combined vote for Harrison, White, Webster and Maguin. Van Buren's majority, 24,893. Of the whole vote Van Buren had 50.83 per cent., and the *others combined 49.17.*

1840, Harrison—Had 1,275,017 to 1,128,702 for Van Buren, *and 7,059 for Birney.* Harrison's majority, 139,256. Of the *whole vote Harrison* had 52.89 per cent., Van Buren 46.82, and *Birney .29.*

1844, POLK—Had 1,337,243 to 1,299,068 for Clay, and 62,300 for Birney. Polk over Clay, 38,175. Polk less than others combined, 24,125. Of the whole vote Polk had 49.55 per cent., Clay 48.14, and Birney 2.21.

1848, TAYLOR—Had 1,360,101 to 1,220,544 for Cass, and 291,263 for Van Buren. Taylor over Cass, 139,557. Taylor less than others combined, 151,706. Of the whole vote Taylor had 47.36 per cent., Cass 42.50, and Van Buren 10.14.

1852, PIERCE—Had 1,601,474 to 1,386,578 for Scott, and 156,149 for Hale. Pierce over all, 58,747. Of the whole vote Pierce had 50.90 per cent., Scott 44.10, and Hale 4.07.

1856, BUCHANAN—Had 1,838,169 to 1,341,264 for Fremont, and 874,534 for Fillmore. Buchanan over Fremont 496,905. Buchanan less than combined vote of others, 377,629. Of the whole vote Buchanan had 45.34 per cent., Fremont 33.09, and Fillmore 21.57.

1860, LINCOLN—Had 1,866,352 to 1,37[illegible] 845,763 for Breckinridge, and 589,581 for Bell. Lincoln over Breckinridge, 491,195. Lincoln less than Douglas and Breckinridge combined, 354,568. Lincoln less than combined vote of all others, 944,149. Of the whole vote Lincoln had 39.91 per cent., Douglas 29.40, Breckinridge 18.08, and Bell 12.61.

1864, LINCOLN—Had 2,216,067 to 1,808,725 for McClellan. (Eleven states not voting, viz.: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas and Virginia.) Lincoln's majority, 408,342. Of the whole vote Lincoln had 55.06 per cent., and McClellan 44.94.

1868, GRANT—Had 3,015,071 to 2,709,613 for Seymour. (Three states not voting, viz.: Mississippi, Texas and Virginia.) Grant's majority, 305,458. Of the whole vote Grant had 52.67 per cent., and McClellan 47.33.

1872, GRANT—Had 3,597,070 to 2,834,079 for Greeley, 29,408 for O'Connor, and 5,608 for Black. Grant's majority, 729,975. Of the whole vote Grant had 55.63 per cent., Greeley 43.83, O'Connor .15, Black .09.

1876, HAYES—Had 4,033,950 to 4,284,885 for Tilden, 81,740 for Cooper, 9,522 for Smith, and 2,636 scattering. Tilden's majority over Hayes, 250,935. Tilden's majority of the entire vote cast, 157,037. Hayes less than the combined vote of others, 344,833. Of the whole vote cast Hayes had 47.95 per cent., Tilden 50.94 per cent., Cooper .97 per cent., Smith .11 per cent., scattering .03.

1880, GARFIELD—Had 4,449,053 to 4,442,035 for Hancock, 307,306 for Weaver, and 12,576 scattering. Garfield over Hancock, 7,018. Garfield less than the combined vote for others, 313,864. Of the popular vote Garfield had 48.26 per cent., Hancock 48.25, Weaver 3.33, scattering .13.

1884, CLEVELAND—Had 4,913,248 to 4,848,150 for Blaine, *151,062 for St. John*, 133,728 for Butler. Cleveland over Blaine *65,098*. *Cleveland* less than entire vote of opponents, 219,712.

1888.—Harrison had 5,430,607 to 5,538,045 for Cleveland, 257,243 to Fisk, and 114,623 to the Labor issue. Cleveland over Harrison, 107,438. Harrison less than entire vote of opponents, 479,304.

SUMMARY—Of the Presidents, Adams, Federalist; Polk, Democrat; Taylor, Whig; Buchanan, Democrat; Lincoln, Republican; Garfield, Republican, and Cleveland, Democrat, did not, when elected, receive a majority of the popular vote. The highest percentage of popular vote received by any President was 55.97 for Jackson, Democrat, in 1828, and the lowest 39.91 for Lincoln, Republican, in 1860; Hayes, Republican, next lowest, with 47.95. Hayes, with the exception of John Quincy Adams, who was chosen by House of Representatives, was the only President ever elected who did not have a majority over his principal competitor, and Tilden the only defeated candidate who had a majority over the President-elect, and a majority of all the votes cast.

WHAT A HORSE CAN DRAW—On metal rails a horse can draw:
One and two-thirds times as much as on asphalt pavement.
Three and one-third times as much as on good Belgian blocks.
Five times as much as on ordinary Belgian blocks.
Seven times as much as on good cobble-stone.
Thirteen times as much as on ordinary cobble-stone.
Twenty times as much as on an earth road.
Forty times as much as on sand.

A modern compilation of engineering maxims states that a horse can drag, as compared with what he can carry on his back, in the following proportions: On the worst earthen road, three times more; on a good macadamized road, nine; on plank, twenty-five; on a stone trackway, thirty-three, and on a good railway, fifty-four times as much.

EXCESSIVE HEAT IN THE PAST.—In 1303 and 1304 the Rhine, Loire, and Seine ran dry. The heat in several French provinces during the summer of 1705 was equal to that of a glass furnace. Meat could be cooked by merely exposing it to the sun. Not a soul dare venture out between noon and 4 p. m. In 1718 many shops had to close. The theaters never opened their doors for three months. Not a drop of water fell during six months. In 1773 the thermometer rose to 118 degrees. In 1778 the heat of Bologna was so great that a great number of people were stifled. There was not sufficient air for the breath, and people had to take refuge under the ground. In July, 1793, the heat again became intolerable. Vegetables were burned up, and fruit dried on the trees. The furniture and wood-work in dwelling-houses cracked and split up; meat went bad in an hour.

LIST OF APPROPRIATIONS BY CONGRESS, 1875–1888.

The following have been the annual appropriations made by the United States Congress for the expenses of the Government for each fiscal year ending June 30, from 1875 to 1888, inclusive:

	1875.	1876.	1877.	1878.	1879.	1880.	1881.
Deficiencies	$ 4,053,812	$ 2,387,372	$ 834,696	$ 2,547,186	$15,213,259	$ 4,633,824	$ 6,118,085
Legislative, Executive & Judicial	20,758,255	16,038,699	16,057,021	15,756,774	15,868,694	16,136,230	16,532,009
Sundry Civil.....	26,924,747	29,459,853	15,895,065	17,079,256	24,968,590	19,724,869	22,503,508
Support of the Army	27,788,500	27,933,830	27,621,868	None.	51,279,679	26,797,300	26,425,800
Naval Service...	20,813,947	17,001,307	12,741,791	13,589,933	14,153,432	14,028,469	14,405,798
Indian Service ..	5,538,275	5,425,627	4,567,018	4,827,666	4,734,876	4,713,479	4,657,263
Rivers & Harbors	5,228,000	6,648,518	5,015,000	None.	8,322,700	9,577,495	8,976,500
Forts and Fortifications	904,000	850,000	315,000	275,000	275,000	275,000	550,000
Military Academy	339,835	364,740	290,065	286,604	292,804	319,547	316,234
Post-Office Dept.	7,175,542	8,376,205	5,927,498	2,939,725	4,222,275	5,872,376	3,883,420
Pensions	29,980,000	30,000,000	29,533,500	28,533,000	29,371,574	56,233,200	41,644,000
Consular & Diplomatic.	3,404,804	1,374,985	1,188,797	1,146,748	1,087,535	1,097,735	1,180,335
Agricult'l D'pt.*.	....	....	....	....	....	....	253,300
Dis. of Col'mbia†	....	....	....	....	....	....	3,425,247
Miscellaneous ...	2,108,041	1,853,805	4,134,692	1,425,092	2,226,390	2,995,124	4,959,332
Totals........	155,017,758	147,714,941	124,122,011	88,356,983	172,016,809	162,404,648	155,830,841

LIST OF APPROPRIATIONS BY CONGRESS — CONTINUED.

	1882.	1883.	1884.	1885.	1886.	1887.	1888.
Deficiencies.....	$ 5,110,862	$ 9,853,869	$ 2,832,680	$ 4,385,836	$ 3,332,717	$13,572,882	$ 137,000
Legislative, Executive & Judicial	17,797,398	29,322,908	20,763,843	21,556,902	21,495,661	20,809,781	20,772,720
Sundry Civil.....	22,011,223	25,425,479	23,713,404	22,346,750	25,961,904	22,650,658	22,369,840
Support of the Army.........	26,687,800	27,032,099	24,681,250	24,454,450	24,014,052	23,753,057	23,724,718
Naval Service...	14,566,038	14,903,559	15,954.247	8,931,856	21,280,767	16,489,556	25,786,847
Indian Service...	4,587,869	5,219,604	5,388,656	5,933,151	5,773,329	5,561,262	5,234,397
Rivers & Harbors	11,451,300	18,988,875	None.	14,940,300	None.	14,464,900	....
Forts and Fortifications.........	575,000	375,000	670,000	700,000	735,000	59,876	....
Military Acad'my	322,435	335,557	318,657	314,563	309,902	297,805	419,936
Post-Office Dept.	1,152,258	1,902,178	Indefinite.	Indefinite.	Indefinite.	Indefinite.	Indefinite.
Pensions........	68,282,307	116,000,000	86,575,000	20,810,000	60,000,000	76,075,200	83,152,500
Consular & Diplomatic........	1,191,435	1,256,655	1,296,255	1,225,140	1,242,925	1,364,065	1,429,942
Agricult'l Dept.*	335,500	427,280	405,640	480,190	580,790	654,715	1,028,730
Dis. of Col'mbia†	3,379,571	3,496,050	3,505,495	3,594,256	3,622,683	3,721,050	4,284,590
Miscellaneous...	1,128,006	5,888,994	1,806,439	7,800,004	2,268,383	10,184,570	4,694,635
Totals.........	179,579,000	251,428,117	187,911,566	137,451,398	170,608,114	209,659,382	193,035,861

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* Previous to 1881 appropriations for the agricultural department were included in the legislative, executive and judicial appropriations. † Previous to 1881 appropriations for the District of Columbia were included in the sundry civil expenses appropriations.

late of Annual Income on Investments,

PAR VALUE BEING $100, BEARING INTEREST AT

Price Paid.	Five Per cent.	Six Per cent.	Seven Per cent.	Eight Per cent.	Ten Per cent.
$50	10.00	12.00	14.00	16.00	20.00
55	9.09	10.90	12.72	14.55	18.18
60	8.33	10.00	11.66	13.33	16.66
65	7.69	9.23	10.76	12.30	15.38
70	7.14	8.57	10.00	11.42	14.28
75	6.66	8.00	9.33	10.66	13.35
80	6.25	7.50	8.75	10.00	12.5
82½	6.06	7.27	8.48	9.69	11.
85	5.88	7.05	8.23	9.41	11.7
87½	5.71	6.85	8.00	9.14	11.4
90	5.55	6.66	7.77	8.88	11.11
92½	5.40	0.48	7.56	8.64	10.8
95	5.26	6.31	7.36	8.42	10.52
96	5.20	6.25	7.29	8.33	10.41
97	5.15	6.18	7.21	8.24	10.30
97½	5.12	6.15	7.17	8.20	10.25
98	5.10	6.12	7.14	8.16	10.20
99	5.05	6.06	7.07	8.08	10.10
100	5.00	6.00	7.00	8.00	10.00
101	4.95	5.94	6.93	7.92	9.90
102	4.90	5.88	6.86	7.84	9.80
103	4.85	5.82	6.79	7.76	9.70
104	4.80	5.76	6.73	7.69	9.61
105	4.76	5.71	6.66	7.61	9.52
110	4.54	5.45	6.36	7.27	9.09
115	4.34	5.21	6.08	6.95	8.69
120	4.16	5.00	5.83	6.66	8.33
125	4.00	4.90	5.60	6.40	8.00
130	3.84	4.61	5.38	6.15	7.69
135	3.70	4.44	5.18	5.92	7.40
140	3.57	4.28	5.00	5.71	7.14
145	3.44	4.13	4.82	5.51	6.89
150	3.33	4.00	4.66	5.33	6.66
160	3.20	3.75	4.40	5.00	6.40

Greatest Tunnels in the World.

Mount St. Gothard, 49,170 feet long (the **longest in the world**); **ount** Cenis, 40,620 feet long; **Hoosac, 23,700** feet long; **Thames, 680** feet long; Harecastle, 8,778 feet long; **Kilsby, 6,210 feet long**; **altimore**, 32,400 feet long.

PLAYING-CARDS. — In 1882 there were manufactured in rmany alone, 4,500,000 packs of playing cards

NATURALIZATION LAWS OF THE UNIT STATES.

The conditions under and the manner in which alien may be admitted to become a citizen of the Uni States are prescribed by Sections 2165-74 of the Revi Statutes of the United States.

DECLARATION OF INTENTION.

The alien must declare upon oath, before a circuit district court of the United States, or a district supreme court of the Territories, or a court of record any of the States having common law jurisdiction, and seal and clerk, two years at least prior to his admissic that it is, *bona fide*, his intention to become a citizen the United States, and to renounce forever all allegian and fidelity to any foreign prince or State, and partic larly to the one of which he may be at the time a citiz or subject.

OATH ON APPLICATION FOR ADMISSION.

He must, at the time of his application to be admitte declare on oath, before some one of the courts abo specified, “that he will support the Constitution of t United States, and that he absolutely and entire renounces and abjures all allegiance and fidelity to eve foreign prince, potentate, State or sovereignty, and pa ticularly, by name, to the prince, potentate, State sovereignty of which he was before a citizen or subject which proceedings must be recorded by the clerk of t court.

CONDITIONS FOR CITIZENSHIP.

If it shall appear to the satisfaction of the court which the alien has applied that he has resided contin ously within the United States for at least five years, a within the State or Territory where such court is at t time held one year at least; and that during that ti “he has behaved as a man of good moral characte attached to the principles of the Constitution of the Unit *States, and* well disposed to the good order and happin *of the same,*” he will be admitted to citizenship.

TITLES OF NOBILITY.

If the applicant has borne any hereditary title or of nobility, he must make an express renunciation of the same at the time of his application.

SOLDIERS.

Any alien of the age of twenty-one years and upward, who has been in the armies of the United States and has been honorably discharged therefrom, may become a citizen on his petition, without any previous declaration of intention, provided that he has resided in the United States at least one year previous to his application, and is of good moral character.

MINORS.

Any alien under the age of twenty-one years who has resided in the United States three years next preceding his arriving at that age, and who has continued to reside therein to the time he may make application to be admitted a citizen thereof, may, after he arrives at the age of twenty-one years, and after he has resided five years within the United States, including the three years of his minority, be admitted a citizen; but he must make a declaration on oath and prove to the satisfaction of the court that for two years next preceding it has been his *bona-fide* intention to become a citizen.

CHILDREN OF NATURALIZED CITIZENS.

The children of persons who have been duly naturalized, being under the age of twenty-one years at the time of the naturalization of their parents, shall, if dwelling in the United States, be considered as citizens thereof.

CITIZENS' CHILDREN WHO ARE BORN ABROAD.

The children of persons who now are or have been citizens of the United States are, though born out of the limits and jurisdiction of the United States, considered as citizens thereof.

PROTECTION ABROAD TO NATURALIZED CITIZENS.

Section 2000 of the Revised Statutes of the United States declares that "all naturalized citizens of the United States while in foreign countries are entitled to and shall receive from this Government the same protection of *persons and property* which is accorded to native-born *citizens.*"

PRINCIPAL OF THE PUBLIC DEBT.

Statement of Outstanding Principal of the Public Debt of the United States on January 1 of each year from 1791 to 1842, inclusive, and on July 1 of each year from 1843 to 1885, inclusive.

Jan. 1.			Jan 1.			July 1.			July 1.		
1791....	$ 75,463,476	52	1817....	$ 123,491,965	16	1843....	$ 32,742,922	00	1869....	$ 2,588,452,213	94
1792....	77,217,924	66	1818 ...	103,466,633	83	1844....	23,461,652	50	1870....	2,480,672,427	81
1793....	80,352,634	04	1819....	95,529,648	28	1845....	15,9 5,303	01	1871....	2,353,211,332	32
1794....	78,427,404	77	1820 ...	91,015,566	15	1846....	15,550,202	97	1872....	2,253,251,328	78
1795....	80,747,587	39	1821....	89,987,427	66	1847...	38,826,534	77	1873....	2,234,482,993	20
1796 ...	83,762,172	07	1822....	93,546,676	98	1848....	47,044,862	23	1874....	2,251,690,468	43
1897....	82,064,479	33	1823....	90,875,877	28	1849....	63,061,858	69	1875....	2,232,284,531	95
1798....	79,228,529	12	1824....	90,269,777	77	1850....	63,452,773	55	1876....	2,180,395,067	15
1799....	78,408,669	77	1825....	83,788,432	71	1851....	68,304,796	02	1877....	2,205,301,392	10
1800....	82,976,294	35	1826....	81,054,059	99	1852....	66,199,341	71	1878....	2,256,203,892	53
1801....	83,038,050	80	1827....	73,987,357	20	1853....	59,803,117	70	1879....	2,245,495,072	04
1802....	86,712,632	25	1828....	67,475,043	87	1854....	42,242,222	42	1880....	2,120 415,370	63
1803....	77,054,686	30	1829....	58,421,413	67	1855....	35,586,858	56	1881....	2,069 013,569	58
1804....	86,427,120	88	1830....	48,565,405	50	1856....	31,972,537	90	1882....	1,918,312,994	03
1805....	82,312,150	50	1831....	39,123,191	68	1857....	28,699,831	85	1883....	1,884,171,728	07
1806....	75,723,270	66	1832....	24,322,235	18	1858....	44,911,881	03	1884....	1,830,528,923	57
1807....	69,218,398	64	1833....	7,001,698	83	1859....	58,496,837	88	1885....	1,876,424,275	14
1808....	65,196,317	97	1834....	4,769,082	08	1860....	64,842,287	88	1886....	1,756,445,205	78
1809....	57,023,192	09	1835....	37,513	05	1861....	90,580,873	72	1887....	1,688,229,591	63
1810....	53,173,217	52	1836....	336,957	83	1862....	524,176,412	13	1888....	1,705,992,320	58
1811....	48,005,587	76	1837....	3,308,124	07	1863....	1,119,772,138	63	1889....	1,640,673,340	23
1812....	45,209,737	90	1838....	10,434,221	14	1864....	1,815,784,370	57			
1813....	55,962,827	57	1839....	3,573,343	82	1865....	2,680,647,869	74			
1814....	81,487,846	24	1840....	5,250,875	54	1866....	2,773,236,173	69			
1815....	99,833,660	15	1841....	13,594,480	73	1867....	2,678,126,103	87			
1816....	127,334,933	74	1842....	20,601,226	28	1868....	2,611,687,851	19			

the price of Southern Confederate Money Dropped.

n the first issue of the Confederate money was scattered the people, it commanded a slight premium. It then down as follows: June, 1861, 90c.; December 1, 1861, 80c.; ber 15, 1861, 75c.; February 1, 1862, 60c.; February 1, 1863, June, 1863, 8c.; January, 1864, 2c.; November, 1864, 4½c.; y, 1865, 2½c.; April 1, 1865, 1½c. After that date, it took 800 to $1,000 in Confederate money to buy a one-dollar ack.

gth of Navigation of the Mississippi River.

length of navigation of the Mississippi river itself for ordi- rge steamboats is about 2,161 miles, but small steamers can about 650 miles further. The following are its principal ble tributaries, with the miles open to navigation.

	Miles.		*Miles.*
sota	295	Wisconsin	160
wa	90	Rock	64
	80	Illinois	350
ri	2,900	Yellowstone	474
orn	50	Ohio	950
eny	325	Monongahela	110
gum	94	Kenawha	94
ky	105	Green	200
h	365	Cumberland	600
see	270	Clinch	50
	302	St. Francis	180
	779	Black	147
White	48	Arkansas	884
tchie	75	Issaquena	161
ver	271	Yazoo	228
tchie	175	Big Black	35
	986	Cane	54
s	44	Ouachita	384
	61	Bœuf	55
lomew	100	Tensas	112
	60	Teche	91
lya	218	D'Arbonne	50
he	168		

other navigable tributaries have less than fifty miles each of ion. The total miles of navigation of these fifty-five s is about 16,500 miles, or about two-thirds the distance *the world. The* Mississippi and its tributaries may be *d to possess* 15,550 miles navigable to steamboats, and *iles navigable to* barges.

Language of Flowers.

FLOWERS.	SENTIMENTS.
Acacia	Concealed love.
Almond	Hope.
Apple-Blossom	Preference.
Arbutus, Trailing	Welcome.
Bell Flower	Gratitude.
Box	Constancy.
Calla Lily	Feminine beauty.
Cedar	I live for thee.
China Aster	I will think of it.
Chrysanthemum, Rose	I love.
Clover, Red	Industry.
Corn	Riches.
Cowslip, American	You are my divinity.
Daffodil	Chivalry.
Dahlia	Forever thine.
Daisy, Garden	I partake your sentiments.
Daisy, White	Innocence.
Daisy, Wild	I will think of it.
Elm, American	Patriotism.
Forget-me-not	True love.
Fuschia, Scarlet	Taste.
Geranium, Apple	Present preference.
Geranium, Ivy	Your hand for the next dance.
Geranium, Rose	Preference.
Gillyflower	Lasting beauty.
Golden Rod	Encouragement.
Hawthorn	Hope.
Heliotrope, Peruvian	I love you; Devotion.
Honeysuckle	Bond of love.
Horse-Chestnut	Luxury.
Hyacinth	Jealousy.
Mint	Virtue.
Morning Glory	Coquetry.
Myrtle	Love.
Oats	Music.
Orange	Generosity.
Pansy	Think of me.
Pink	Pure affection.
Pink, Red	Pure, ardent love.
Rose, Moss	Superior merit.
Rose, Tea	Always lovely.
Rose, White	I am worthy of you.
Snowball	Winter.
Tuberose	Dangerous pleasures.
Verbena	Sensibility.
Violet, Blue	Love.
Violet, White	Modesty.

Glass windows were first introduced into England in the eighth *century.*

EXPECTATION OF LIFE.

The mortality tables governing life insurance, and in use in the United States, have been the "Combined Experience or Actuaries' Table," based on the experience of seventeen English life insurance companies, deduced from 32,537 policies, and the "American Experience Table," arranged by Mr. Sheppard Homans in 1868, from the experience of the Mutual Life Insurance Company of New York, and other companies. These not being a fair expression of the mortality of American assured lives, the American Chamber of Life Insurance, in 1873, began the collection of statistics of mortality experience. After ten years the work was completed, and it embraces the experience of thirty life insurance companies, covering over a million policies. The following table was made from it, and shows, on the average, the number of additional years any person may expect to live, at a given age:

AGE.	EXPECTATION OF LIFE. YEARS.	
	Males.	Females.
10	49.99	48.05
11	49.32	47.21
12	48.64	46.40
13	47.95	45.64
14	47.26	44.91
15	46.57	44.19
16	45.88	43.48
17	45.18	42.79
18	44.48	42.12
19	43.78	41.46
20	43.07	40.82
21	42 36	40.19
22	41.65	39.56
23	40.93	38.96
24	40.21	38.38

EXPECTATION OF LIFE.—CONTINUED.

AGE.	EXPECTATION OF LIFE. YEARS.	
	Males.	Females.
25	39.49	37.80
26	38.77	37.23
27	38.04	36.66
28	37.31	36.08
29	36.58	35.49
30	35.85	34.89
31	35.12	34.29
32	34.38	33.69
33	33.65	33.06
34	32.91	32.42
35	32.17	31.78
36	31.43	31.13
37	30.70	30.47
38	29.96	29.81
39	29.22	29.16
40	28.48	28.48
41	27.75	27.82
42	27.01	27.15
43	26.28	26.45
44	25.55	25.74
45	24.82	25.02
46	24.09	24.30
47	23.38	23.57
48	22.66	22.83
49	21.95	22.08
50	21.24	21.33
51	20.54	20.59
52	19.84	19.87
53	19.15	19.15
54	18.47	18.44
55	17.80	17.73
56	17.13	17.03
57	16.47	16.35

EXPECTATION OF LIFE.—CONTINUED.

AGE.	EXPECTATION OF LIFE. YEARS.	
	Males.	Females.
58	15.83	15.67
59	15.19	15.02
60	14.56	14.37
61	13.94	13.73
62	13.34	13.10
63	12.74	12.49
64	12.16	11.90
65	11.60	11.31
66	11.04	10.74
67	10.50	10.19
68	9.97	9.65
69	9.46	9.13
70	8.97	8.12
71	8.49	8.63
72	8.02	7.25
73	7.57	7.70
74	7.14	6.36
75	6.72	6.94
76	6.32	5.53
77	5.93	5.15
78	5.57	5.88
79	5.21	4.42
80	4.87	4.19
81	4.55	4.87
82	4.24	3.58
83	3.95	3.39
84	3.67	3.03
85	3.40	3.88
86	3.14	2.64
87	2.89	2.42
88	2.64	2.22
89	2.39	2.03
90	2.17	2.85

EXPECTATION OF LIFE.—CONTINUED.

AGE.	EXPECTATION OF LIFE. YEARS.	
	Male.	Female.
91	1.98	1.79
92	1.81	1.53
93	1.64	1.49
94	1.49	1.36
95	1.34	1.24
96	1.18	1.23
97	1.03	1.09
98	.83	.93
99	.50	.50

The word "news" was not, as many suppose, derived from the adjective new, but from the fact that many years ago it was customary to put at the head of the periodical publications of the day the initial letters of the compass, thus:

N
W—|—E
S

Signifying that the matter contained therein was from the four quarters of the globe. From the letters came the word "news."

To supply the demand for milk and its products in this country 15,000,000 cows are required. To furnish food for them the cultivation of over 60,000,000 acres of land is required. In caring for the cows and their milk 700,000 men find employment and 1,000,000 horses are needed. Cows and horses consume annually 30,000,000 tons of hay, 90,000,000 bushels of cornmeal and the same amount of oatmeal, 275,000,000 of oats, 2,000,000 bushels of bran, and 30,000,000 bushels of corn, to say nothing of the brewery grains and questionable feed of various kinds that is used all over the country. It costs $400,000,000 to feed these cows and horses.

Workshop Rules and Receipts.

Moisture-Proof Glue.—One pound glue, melted in two parts skim-milk.

To Remove Rust from Steel.—Brush the rusted steel with a paste composed of ½ oz. cyanide potassium, ½ oz. castile soap, 1 oz. whiting, and enough water to make a paste. Then wash the steel in a solution of ½ oz. cyanide potassium in 2 oz. water.

To Test Quality of Iron.—*A soft, tough iron* is indicated by the fracture giving long, silky fibers of a grayish hue, the fibers cohering and twisting together before breaking. *Badly refined iron* is indicated by short, blackish fiber. *Good iron* is indicated by a medium, even grain, mixed with fibers. *Brittle Iron* is indicated by coarse grain, with brilliant crystallized fracture, brown or yellow spots. It works easily when heated, and welds easily.

Hot Shot Iron is indicated by cracks on the edge of bars. Good iron heats readily, throws few sparks, and is soft when hammered.

Marine Glue.—One part India rubber, twelve parts mineral naphtha. Mix, heat gently, and add twenty parts of shellac, powdered fine. Cool on a slab. Heat to 250 degrees when wanted for use.

Parting Sand.—Burnt sand, scraped from the surface of castings.

Loam.—Mixture of brick, clay and old foundry sand.

Blackening for Molds.—Charcoal powder, or, in some instances, fine coal dust.

Black Wash.—Charcoal, plumbago and size.

Mixture for Welding Steel.—1 sal ammoniac, 10 borax, pounded together, and fused until clear, when it is poured out, and, after cooling, reduced to powder.

Notes on Working of Steel.

1. Good, soft heat is safe to use if steel be immediately and thoroughly worked.

It is a fact that good steel will endure more pounding than any iron.

2. If steel be left long in the fire, it will lose its steely nature and grain, and partake of the nature of cast iron.

Steel should never be kept hot any longer than is necessary to the work to be done.

3. Steel is entirely mercurial under the action of heat, and a careful study of the tables will show that there must, of necessity, be an injurious internal strain created whenever two or more parts of the same piece are subjected to different temperatures.

4. It follows, that when steel has been subjected to heat not absolutely uniform over the whole mass, careful annealing should be resorted to.

5. As the change of volume due to a degree of heat increases directly and rapidly with the quantity of carbon present, therefore high steel is more liable to dangerous internal strains than low steel, and great care should be exercised in the use of high steel.

6. Hot steel should always be put in a perfectly dry place, of even temperature, while cooling. A wet place in the floor might be sufficient to cause serious injury.

7. Never let any one fool you with the statement that his steel possesses a peculiar property which enables it to be "restored" after being "burned;" no more should you waste any money on nostroms for restoring burnt steel.

We have shown how to restore "overheated" steel.

For "burned" steel, which is oxidized steel, there is only one way of restoration, and that is, through the knobbling fire or the blast furnace.

"Overheating" and "restoring" should only be allowable for purposes of experiment. The process is one of disintegration, and is always injurious.

8. *Be careful* not to overdo the annealing process; if carried *too far it does great* harm, and it is one of the commonest modes *of destruction* which the steel-maker meets in his daily troubles.

It is hard to induce the average worker in steel to believe that very little annealing is necessary, and that very little is really more efficacious than a great deal.

The mean strength of American wrought iron is 45,900 lbs.; English 43,900. Ultimate extension of wrought iron is 600th part of its length. The working strain is from 1-6 to ¼ the mean strength.

Resistance to flexure, acting evenly over the surface, equals one-half the tensile strength. Bars of wrought iron will expand or contract 151200th of their length for each degree of heat. With range of temperature of this country (=20 to + 120°)=140°, will expand or contract 1080th part of its length, equal to a force of 20,740 lbs., or 9¼ tons per square inch of section. Tensile strength increases, in from 1 to 6 reheatings and rollings, from 43,904 lbs. to 60,824 lbs.; in from 6 to 12, is reduced again to 43,904.

Capacity of Cisterns.

For each ten inches in depth.

Twenty-five feet in diameter holds	3,059 gallons
Twenty feet in diameter holds	1,958 gallons
Fifteen feet in diameter holds	1,101 gallons
Fourteen feet in diameter holds	95[illegible] gallons
Thirteen feet in diameter holds	827 gallons
Twelve feet in diameter holds	705 gallons
Eleven feet in diameter holds	592 gallons
Ten feet in diameter holds	489 gallons
Nine feet in diameter holds	396 gallons
Eight feet in diameter holds	313 gallons
Seven feet in diameter holds	239 gallons
Six and one-half feet in diameter holds	206 gallons
Six feet in diameter holds	176 gallons
Five feet in diameter holds	122 gallons
Four and one half feet in diameter holds	99 gallons
Four feet in diameter holds	78 gallons
Three feet in diameter holds	44 gallons
Two and one-half feet in diameter holds	30 gallons
Two feet in diameter holds	19 gallons

AFRICAN EXPLORATIONS.

The return of Henry M. Stanley from the rescue of Emin Pasha, during the summer of 1890, has excited a good deal of interest in the country, especially so since last year about 6,000,000 square miles of African territory has been taken and divided among the nations of Europe. The object of Mr. Stanley's last trip through Africa was for the relief of Emin Pasha, who had been appointed governor of Equatoria by Gen. Gordon previous to his own fall in Khartoum This was in 1878. Emin at once entered upon his duties, which involved him in constant warfare with the Arab slave traders and the Mahdi. Up to 1886 he was entirely cut off from the outside world and nothing could be heard of him. It was known that he had ten fortified stations on the Nile and 1,500 soldiers. Dr. Junker, the Russian explorer, left Emin Jan. 1, 1886, and after many dangers reached Europe. His account of the perilous position of Emin created a profound impression in Europe and plans were formed to rescue him. Money was raised and the relief expedition was placed under the command of Mr. Stanley. He left London for Zanzibar Feb. 3, 1887, which he reached on the 21st and started at once for the mouth of the Congo, arriving there March 18, 1887. The next day he started up the Congo river and on the 28th of June reached the Aruwimi river, which is about one hundred miles north of the equator and about two-fifths of the way across, near longitude 25 east from Greenwich. From this point Stanley started across an unknown wilderness with 389 officers and men. Of the indescribable horrors encountered in fights with the natives, sickness and death of his men, hunger and sufferings of every conceivable kind, there is not space to speak. It was not until the last of February, 1889, that Stanley met Emin. To his dismay he found Emin not willing to leave the country, although he was a prisoner. At last, being influenced by the offer of a commission from the king of Belgium, he decided to unite his forces with those of Stanley and go to Bagamoyo on the Indian ocean, where they arrived Dec. 4, 1889. The distance to the mouth of the Congo was about six thousand miles and the time occupied in the journey was nearly three years.

PITHY FACTS.

NEWSPAPERS.—The number of daily newspapers in th United States is over 1,300, with an aggregate circulation o 4,800,000.

NERVOUS DEATHS.—About eleven per cent. of the death in the United States are the result of some form of nervou disease; a cause which does not find mention in mortality statistic of other countries.

VIOLENT DEATHS.—Out of a thousand deaths, forty-on are violent in the United States, and sixteen throughout Europe The lowest number is seven, in Russia, and the greatest Europea is thirty-eight in Switzerland.

THE LARGEST LIBRARY in the world is the Imperial a Paris, which contains over 2,000,000 volumes.

MILES OF BOOKS.—In the library at the British Museu there are over thirty-two miles of shelves filled with books.

DIVORCES.—The number of divorces per 1,000 marriages i 4 in London, 10 in Berlin. 15 in Munich, 23 in Vienna, 25 in Paris 73 in Boston, and 223 in San Francisco.

OUR ANCESTORS' ILLITERACY.—Out of the twenty si Barons who signed the Magna Charta, only three could writ their names The remainder made their mark.

YOU CANNOT COUNT A TRILLION. — It is impossibl to count a trillion. Had Adam counted continuously from hi creation to the present day, he would not have reached that number, for it would take him over 9,512 years. At the rate of 200 minute, there could be counted 12,000 an hour, 288,000 a day, an 105,120,000 a year.

WHAT SMOKING COSTS.—The expense of smoking thre five-cent cigars a day, principal and interest, for ten years, i $745,74; for twenty-five years, $3,110.74. The expense of thre ten-cent cigars, at the end of ten years, is $1,471.56; for twenty five years, $6,382.47. At the end of fifty years, it is $54,162.14

IMMIGRATION.—The total number of immigrants to th United States, from 1821 to the close of 1883, was 12,337,100.

GOLD can be beaten 1,200 times thinner than printing paper. One ounce will cover 146 square feet. A cubic inch, at $18 per ounce, is worth $210.

PASSENGERS TRANSPORTED. — Steamers betwee Europe and America carry about 70,000 passengers per month *Railways throughout* the world transport about 145,000,000 passe *gers per month.*

AUTHORS' SUCCESS. — It is said that Judge To *received over* $70,000 for his Fool's Errand. Disraeli, $5,0 his Endymion; Moore, $15,500 for his Lalla Rookh, and Victor Hugo, $12,000 for Ernani.

LARGEST ELECTRIC LIGHTS.—The rapidity with which modern improvements are adopted, is shown by the fact that in 1883 the largest electric light in the world was at the Sydney Lighthouse, Australia, which has a power of 180,000 candles, and that the fourth largest is at San Jose, Cal., 24,000 candle power (the light at Paris, in Palais d'Industrie, equal to 150,000 candle power, and the Marseilles light, of 40,000 candles, being greater). The Sydney light is visible fifty miles; that of San Jose sheds light two miles around.

DERIVATION OF OUR LANGUAGE.—Over three-eighths of the words in the English language are derived from the Latin, over one-fourth from the French, about one-tenth from the Saxon, and a little less from the Greek. The indebtedness to other languages is small.

CHURCH MEMBERSHIP.—The Methodist Church has the largest membership in the United States of any Evangelical denomination, having 4,723,881 members. The Baptist has 4,078,589; Lutheran, 988,008; Presbyterian, 1,180,113; Christian, 120,000; Congregational, 475,608; Protestant-Episcopal, 459,642; Universalist, 38,780; Unitarian, 64,780, and the Roman Catholic (claim adherents), 7,855,294.

THE ATTENDANCE at the International Exhibition at New York, in 1853, was 600,000; Paris, 1855, 4,533,469; London, 1862, 6,211,100; Paris, 1867, 9,300,000; Vienna, 1873, 7,254,867; Philadelphia, 1876, 10,200,000; Paris, 1878, 16,100,000.

BIG TREES.—Of ninety-two redwood trees in Calaveras Grove, Cal., ten are over thirty feet in diameter, and eighty-two have a diameter of from fifteen to thirty feet. Their ages are estimated at from 1,000 to 3,500 years. Their height ranges from 150 to 237 feet.

FINENESS OF UNITED STATES COIN.—The gold coins are nine-tenths fine; the silver coins, nine-tenths fine; the copper-nickel coins, such as the 5-cent piece and 3-cent piece, are one-fourth nickel and three-fourths copper; the bronze coins are 95 per cent. copper and 5 per cent. tin and zinc. The alloy in the gold coins is silver and copper; in the silver coins, copper.

A Good Disinfectant.—Dissolve half a dram of nitrate of lead in a pint of boiling water, then dissolve two drams of common salt in eight or ten quarts of water; when both are thoroughly dissolved, pour the two mixtures together, and, when the sediment has settled, you have a pail of clear fluid, which is the saturated solution of the chloride of lead. A cloth saturated with the liquid and hung up in a room will at once sweeten a fetid atmosphere Poured down a sink, water-closet or drain, or on any deca offensive object, it will produce the same result.

EUROPE.

Europe is a peninsula, projecting from Asia. It is situated in the same latitude as the United States and the Dominion of Canada.

The extreme length of Europe from northeast to southwest is about 3,500 miles. The population is about six times that of the United States.

Its water boundary, if a continuous line, would reach four-fifths of the way around the world.

The British Isles are separated from the continent by the North Sea, which has an average depth of about 600 feet. There is much evidence to show that they were formerly a part of the mainland.

In relative extent of coast Europe surpasses all other countries. It is partly to the great number of indentations of the coast that Europe owes its commercial supremacy.

The islands of Europe constitute about one-twentieth of its area.

The greater part of the continent is low and level. Russia and all the territory bordering on the North and Baltic seas constitute a vast plain, called Low Europe. The basin of the Caspian Sea and much of the Netherlands are below the sea-level.

A high plateau, extending along the southern part of the continent, is known as High Europe. This plateau is surrounded by the irregular and broken mountain ranges which constitute the Alpine System, the main axis of the continent.

The Alps are the highest range. The other principal ranges are the Pyrenees, Apennines, Balkan, Carpathian and Caucasus mountains.

The Alps have long been celebrated for the number and extent of their glaciers, among which are the sources of the Rhine, Rhone, Po and several tributaries of the Danube.

The chief lake region of Europe is in Northwestern Russia. Lake Ladoga is the largest lake.

The lakes in Switzerland, especially Geneva and Constance, are celebrated for their beautiful scenery. There are many salt lakes in Russia, most of which are situated in the basin of the Caspian Sea.

Most of the rivers of Western Europe are connected with one another by canals, and are navigable.

CLIMATE.—Europe enjoys a more equable climate than any other country situated in corresponding latitudes. Its mildness is due, chiefly, to the southwesterly winds, which are warmed by the water of the Gulf Stream.

Rain is most abundant on the western coasts.

The tundras, or frozen marshes of the Arctic Slope, are covered with mosses and willows. South of this region is a belt of dense forest, chiefly of pine, oak, elm and ash.

Grains, hemp, flax and tobacco are cultivated in the central regions. The cultivation of the grape, olive, orange, lemon, fig, mulberry and cotton is confined, chiefly, to the Mediterranean Coast.

Most of the wild animals have disappeared. The reindeer, white bear and other animals valuable for their furs are, however, found in the more thinly settled regions; the wolf and wild boar are common in the forests, and the chamois and ibex inhabit the Alpine heights.

Water-fowl are numerous. The sardine, herring, pilchard, anchovy and other fish suitable for food abound in the surrounding waters.

MINERALS.—Coal, iron and copper are very widely distributed. Silver, zinc and lead are plentiful in the central highlands. Quicksilver, niter, sulphur and salt in volcanic regions. Coral of great beauty and value is obtained in the Mediterranean Sea.

PEOPLE.—The inhabitants of Europe, numbering about 330,000,000, belong to the Caucasian and Mongolian races.

ASIA.

Asia, the largest country in the world, occupies the eastern part of the Eastern Continent.

It contains about one-third of the land surface of the earth — is twice as large as North America, and nearly five times the size of the United States. Its greatest length is 7,500 miles, nearly one-third the circumference of the earth.

The islands of Asia are a partly submerged mountain chain. All of them volcanic.

The northwestern Asia is a continuous plain; the southeastern, an elevated plateau traversed by high mountains. The line of greatest length is also the line which separates the highlands from the lowlands. From the Hindoo Koosh, the mountain ranges of Asia radiate toward the east.

The Himalaya Mountains are the highest in the world. The summit of Mt. Everest is over 29,000 feet above the sea-level, being more than 6,000 feet higher than the highest peak of the American continent.

The Caspian Sea and the Sea of Aral are thought to have been formerly arms of the ocean. Both are salt lakes. The former is below the sea-level.

Lake Baikal is the largest body of fresh water in Asia and is about as large as Lake Erie.

The rivers of Asia, though of great length, are distinguished by narrow valleys, rather than large basins. Most of them rise in the central highlands, from which they radiate in three directions, — north, east, and south, and mingle their waters with those of three oceans.

The Yang-tse and Hoang rivers are subject to great changes, brought about by the shifting of their channels. In 1851, the Hoang Ho burst through its banks and poured its waters into the *Gulf* of Pecheelee, and within two years its lower course had so *changed that the* mouth of the river had shifted 250 miles from its *former position.* ( )

*Central Hin*doostan is often called the Plateau of the Deccan.

The Obi is the only river navigable to any considerable distance

The river valleys and the plains which are well watered are extremely fertile. The high, central region and the western plateaus are dry, sandy, and barren.

Every degree of temperature and moisture may be found in Asia, from that of the frozen tundras of Siberia, to that of the hot, pestilential jungles of India. The deserts of Arabia, Persia, Turkestan and Gobi receive little or no rain, while the southern slope of the Himalaya is annually inundated.

Siberia is swept by icy winds from the Arctic Ocean; Arabia, by the hot and fatal simoom. India is traversed by winds which scorch the entire surface for half the year, and flood it with rain the remaining part.

Destructive cyclones often visit the coast, frequently piling up the waters of the Bay of Bengal until the lowlands of the Ganges are submerged.

Southern Asia is covered with a dense tropical vegetation. The palm, bamboo, and banyan tree are abundant Rice, cotton, sugar-cane, flax, jute, hemp, poppy, and the spices, are the principal plants cultivated in the plains and valleys of Southern Asia.

Central Asia produces the plants which thrive best in the temperate zones. Vast forests of pine, larch, teak, maple and birch are on the upland terraces of Siberia. The chief cultivated plants of Central, Eastern and Southeastern Asia are wheat, tea and rice.

Western Asia produces the famous Mocha coffee, tobacco, the fig, date and olive.

Nearly all the domestic animals of the earth are found in Asia, and most of them are native to it. The camel and elephant are used as beasts of burden.

Southern Asia abounds in fierce animals and dangerous reptiles. The largest animals are the elephant, rhinoceros, tapir, lion, tiger, hyena, and jackal. The reptiles include the crocodile, python and cobra de capello. Monkeys and beautiful birds are numerous.

In the colder regions the bear, wolf, fox, buffalo and several species of wild cattle are common. Also many kinds of deer.

Gold and platinum are widely diffused throughout the Ural Mountains and the central plateaus.

Silver is mined in Siberia. Copper and iron are abundant and widely distributed.

Tin is abundant in the Malay Peninsula and the Island of Banca, near Sumatra.

Petroleum is found in the basin of the Caspian Sea.

Asia has always been famous for precious stones. Most of the large and valuable diamonds, sapphires, rubies, and emeralds are from the mines of India.

The finest pearls are obtained in the Persian Gulf and in the water along the coasts of Ceylon.

Asia is probably the birthplace of the human race. The strongest evidences of history and science point to the highlands of Asia as the birthplace of man. Somewhere in the valleys of Persia, the old name of which was Arya, there lived a people who built houses, cultivated the soil and had forms of government.

They believed in an Omipotent Being and also a spirit of evil. Fully one-half the inhabitants of the earth live in China and India.

Siberia, Russian Turkestan and Trancaucasia are subject to Russia, whose capital is St. Petersburgh.

Siberia may be divided into three belts; agricultural and grazing land in the South; forests in the middle; and frozen marshes in the North.

Gold, silver, copper and other metals are mined in the mountains; and numerous wild animals are hunted for their furs.

Trade is carried on by means of caravans and camel trains. In summer boats navigate the rivers, and in winter sledges are drawn on the ice and snow by dogs, horses and reindeer.

The chief cities are Tiflis in Transcaucasia, west of the Caspian Sea; Tashkend, in Russian Turkestan; Omsk, in Western Siberia; and Irkootsk, in Eastern Siberia. Yakootsk, on the Lena River is said to be the coldest city in the world.

The Chinese Empire is larger by one-half than the United States and contains about six times as many inhabitants.

China contains the greater part of the population. The land is fertile and well cultivated, agriculture being the chief occupation of the people. Rivers and canals are numerous; much traveling is done in boats. Thousands of the inhabitants of China have their houses and gardens on rafts and boats which float on the rivers. These people live by gardening and fishing. In their floating houses their children are born, are married and die. A young child falling overboard there is kept from drowning by means of an empty gourd which its mother had tied between its shoulders.

The food of the Chinese consists, principally, of rice and fish.

The leading exports from China are tea, silk, porcelain and pottery.

Its trade is carried on, mainly, with Great Britain, Australia and the United States, by means of ships, and with Russia by means of caravans.

Many of the inhabitants of the other divisions of the empire are wandering tribes, whose occupation is the raising of horses, sheep and goats.

Pekin, the capital of the Chinese Empire, is noted for its surrounding walls, magnificent gates and heathen temples. Its houses are only one or two stories high. Its population is greater than that of New York City.

Thibet is situated on a high plateau, surrounded by the highest mountains in the world.

Corea is a kingdom. It was, until recently, under the control of the Chinese government.

The Empire of Japan consists of islands, which contain mountains, streams, forests, and a well cultivated soil. Japan contains beautiful lakes, rivers, water-falls, trees, and flowers of great variety; bears, deer, wolves, and foxes; pheasants and other birds. The celebrated mountain in Japan is Fujiyama, whose summit is covered with snow nearly all the year. In summer bands of pilgrims dressed in white travel to its summit to worship idols there.

The principal occupations of the Japanese are agriculture, manufacturing and mining.

Its exports comprise tea, rice, silks, porcelain, fans and lacquered ware.

Tokio, the capital, is the residence of the emperor, called the mikado. Its chief port is Yokahama.

India is larger than all the Pacific States and Territories, and contains about four times as many inhabitants as the United States.

The Empire of India is ruled by the Governor-General, who is appointed by Victoria, Queen of Great Britain and Ireland and Empress of India. Next to the Chinese Empire it is the most populous in the world. India was settled by the Aryans, about 1400 B. C. They were Brahmins, but unlike the Brahmins of the present time in their religious teaching and practices. Their language was the Sanskrit. The people are divided into castes. They believe in the transmigration of souls. Gautama or Buddha, about 500 B. C., introduced a form of religion which, after a long struggle with Brahmanism, was overcome in India and transplanted in China, where it has degenerated into a debasing form of idolatry. Queen Elizabeth chartered the East India Company in 1600 A. D. The vast empire, which had grown by its conquests, was transferred to the British Crown in 1858.

Nearly the whole of India is subject to Great Britain, either absolutely or as tributary states.

India is remarkable for its high, snow-covered peaks, hot climate and large population.

Its low plains in the north are the most fertile in the world. The west and south contain desert tracts.

Agriculture and stock-raising are the principal industries.

The exports are cotton, opium, rice, wheat and jute. Cattle, camels, buffalos, sheep and goats are numerous. The inhabitants subsist, principally, upon rice, fish and tea.

Calcutta is the capital and the largest city in India, and the most important city in Asia. Bombay, on the western coast, and Madras, on the eastern, are important cities.

Ceylon is a mountainous island, belonging to Great Britain. It is famous for coffee and spices. Pearl oysters abound on the southern coast, and the fishery is often very profitable.

Farther India or Indo-China, forming the southeastern peninsula of Asia, comprises the kingdoms of Burmah, Siam and Anam, Lower Cochin China, Cambodia and the Malay Peninsula.

This division of Asia is remarkable for its long mountain ranges and fertile valleys, its hot, moist climate, and its dense forests and jungles.

It contains large, savage animals, and many tribes of people scarcely removed from barbarism.

The chief occupation of the inhabitants is the cultivation of rice, which is their principal article of food.

Bangkok, the capital of Siam, is the largest city in F
India. It contains royal palaces and many pagodas. The
surrounded by bamboo houses built on piles.

Mandalay is the capital of Burmah.

Saigon is a sea-port of French Cochin China.

Singapore, on the Island of Singapore, is a sea-port bel
to Great Britain.

Persia, Afghanistan, Beloochistan and Bokha
remarkable for their desert tracts, forest-covered mountai
fertile river valleys.

The principal products are grain, fruits, sugar, indig
dates.

Many of the inhabitants [illegible] large flocks of goats and
while others are engaged in the manufacture of silk goods, s
rugs and perfumery, or in the caravan trade. There are
many roving, warlike tribes. Nearly all are Mohammedans

Persia is remarkable for extensive salt deserts. Near th
pian Sea, however, vegetation is luxuriant. Here, as i
Mohammedan countries, education is confined to learning p
of the Koran and scraps of poetry. The Persians are a slow
going people, hospitable, generous, but procrastinating.

These countries are important because of their situation b
Russia and the Indian Ocean. Afghanistan has been call
"gateway to India."

Teheran, the capital of Persia, and Tabriz, are the chief ci

Cabul, Herat and Candahar are the principal cities in A
istan.

Arabia is chiefly a hot, desert plateau, with oases of di
sizes, in which dates, grapes, tamarinds and other fruits gro

It has no general government, the inhabitants being ru
sheiks or chiefs. The rulers are called Sultans.

Arabia is celebrated for fine dromedaries and horses, and
lent coffee.

Muscat, the capital of Oman, is the largest city in Arabi
the chief sea-port.

Aden is a fortified sea-port belonging to Great Britain.

Mecca, the birthplace of Mohammed, is visited by man
hammedan pilgrims every year. It is said to be the hottest
the world.

Turkey in Asia is a part of the Ottoman, or Turkish E
whose capital is Constantinople.

Its northern part is remarkable for forests, mountains and
valleys. Its eastern part for the fertile plains of the Tigr
Euphrates, and its southern for a desert region.

Tropical fruits, cotton, grain and tobacco grow abundantl

The people are chiefly Turks and Arabs, professing the M
medan religion.

Smyrna, an important commercial port and steamer stat
the largest city.

Damascus is the oldest city in the world. It contains mosques, and is the center of the caravan trade. Its manufactures comprise saddles and silk goods.

Palestine, or the Holy Land, is mentioned in Scripture as the Promised Land of the Ancient Hebrews, and the birthplace of Christianity. It contains the cities of Jerusalem and Bethlehem, the valley of the Jordan, the Dead Sea and the Sea of Galilee.

AFRICA.

Africa, the south-western continent of the Old World, is the only country stretching entirely across the Torrid Zone.

It is a peninsula, joined to Asia by the Isthmus of Suez. The ship-canal, constructed across the isthmus, makes it, artificially, an island. The shortest distance across the Isthmus of Suez is about seventy-two miles; the line of the canal is one hundred miles. The average height of the isthmus above sea-level is scarcely ten feet.

The Suez Canal was completed in 1869. It has a depth of twenty-four feet, and a clear channel seventy-two feet in width. By connecting the Red sea with the Mediterranean, this canal furnishes a shorter route between European ports and India, than that around the Cape of Good Hope. It extends from Port Said, on the Mediterranean, to Suez, a sea-port town near the head of the Gulf of Suez.

Africa is the second country in size. Its length and breadth are each about 5,000 miles.

The coast is unbroken by bays and inlets such as make secure harbors for vessels. In proportion to its size, it has the shortest coast-line.

There are many continental islands lying along the coast of Africa. Madagascar, the largest, is separated from the continent by a very shallow channel.

The interior of Africa is a plateau, which is highest in the south and south east. This, in most parts, is bordered by mountains, between which and the sea is a low and narrow strip of coast.

The average elevation of the high plateau is about 5,000 feet; and of the northern region, about 1,500 feet.

The principal mountain system extends along the eastern side of the continent. Mount Kenia, the highest peak, is about 20,000 feet above the level of the sea.

The Great Sahara Desert has an undulating surface, and is covered mostly with shifting sand and gravel. A small portion, south of Barca, is below the sea-level.

Oases, watered by springs and covered with groves of date-palm-trees, are met with in different parts of the desert.

Soudan, situated south of the Great Desert, is a region remarkable for its extreme heat and excessive rains and droughts.

Central Africa, *or the region crossed by the Equator, is remarkable for its fertility; and, owing to its great height above the sea-level, its climate is mild and healthful. This region drained by many large rivers.*

Southern Africa is mountainous, but it contains many fertile valleys and plains well adapted to agriculture and stock-raising. The Kalahari Desert, though destitute of streams, is covered during a great part of the year with grass. The lakes of Africa are confined chiefly to the high, equatorial region, and are remarkable for their number and size. Lake Victoria is the largest lake in the world. Its outlet is the Nile river.

The River Nile flows through the most important part of Africa. Its lower course is in a region almost rainless, and for more than 1,500 miles it does not receive a single tributary. It is fed by the annual rains and the melting snows of the high mountains.

The water of the Nile is highest from May till September, when the lower valley is covered with a fine, rich soil, brought down by the flood; and the seeds which are scattered over the water, as it subsides, bring forth abundant crops of grain. Cotton, also, is an important product of the Nile Valley.

The Congo, first explored by Livingstone, and afterward by Stanley, drains the most fertile part of the continent. Its source is in the region of heavy rains.

The region of greatest heat is in the Egyptian Soudan. There the midday temperature during the summer months is often 140 deg. Fahr., while the nights are sometimes so cold that ice forms. In the desert, hot winds, known as simooms, are prevalent, and sand storms are often destructive. The coast, generally, is very unhealthy.

Southern Africa possesses a mild and genial climate. Here are the principal settlements formed by Europeans in Africa. This is the home of the Caffre.

Northern Africa yields grain, cotton, dates, almonds, and olive-oil. Rice is a leading product of the Guinea Coast. The date-palm flourishes along the shores of the Mediterranean and in the oases of the desert. The famous baobab-tree is found in Central Africa. It is famous for its great size and age. Groves of teak, mangrove, ebony, and India rubber abound on the western coast. Gum arabic, myrrh, cotton, coffee, sugar-cane, and spices are products of Eastern Africa. The islands produce tropical fruits, wine and amber.

Africa is noted for large and ferocious animals, and venomous serpents. The lion is found in all parts of the continent. The hippopotamus inhabits the upper Nile, while the marshes and streams of the low coast contain many crocodiles, lizards, and other reptiles.

The gorilla, the largest and fiercest of apes, and the chimpanzee, are met with in the west. The elephant, giraffe, and the two-horned rhinoceros, belong in Central and Southern Africa. There are many species of deer and antelope. The zebra and the gnu or horned horse, are numerous in the grassy plains of Southern Africa. The ostrich is hunted in various parts of the continent; but in Southern Africa, the rearing of those birds for their plumes is an important occupation.

The most useful animal in crossing desert regions is the camel. Travelers and merchants, with their camels carrying merchandise cross the desert in companies, called caravans. For more than four thousand years camels have been almost the sole means employed to carry merchandise across the deserts. The camel will carry a load of four or five hundred pounds weight fifty miles a day for five or six days, although he may not be supplied with food or water during that time.

The coasts of Guinea and Senegambia have long been celebrated for gold. Copper, lead, salt, and saltpeter are obtained in some places.

Important diamond fields are in South Africa.

Africans comprise three races — the Caucasian, Negro, and Malay.

The Moors, Arabs, Berbers, Egyptians, and various tribes of the north are Caucasians; the tribes of Central and Southern Africa, and the east and west coasts, Negroes; and those of Madagascar, Malays.

Excepting the European colonists who have settled along the coast, nearly all the Caucasian inhabitants are Mohammedans, and are in a low state of civilization.

Most of the Negro tribes of Africa are savages, in a degraded condition. There are, however, several tribes which cultivate the soil, raise cattle, and observe laws.

The Barbary States, situated on the Mediterranean coast, extend from the Atlantic Ocean to Egypt.

The climate is mild and healthful. South of the Atlas Mountains, it is extremely hot and arid. There are two seasons, a rainy and a dry.

The highlands are covered with forests of cedar, pine, cork-trees and other valuable timber. The lowlands are finely adapted to agriculture.

The most important productions are dates, oranges, bananas, pomegranates and figs.

The natives consist of Moors, Arabs, and Berbers. Although descended from a very enlightened people, they are extremely ignorant, degraded and treacherous. The foreigners are mainly French and Jewish colonists. Wherever they settled, agriculture, manufactures and commerce quickly followed.

Morocco is under the absolute government of a sultan, who is subject to Turkey. The country is sparsely settled. Cattle, sheep, and goats are reared extensively.

In tanning and dyeing leather the people exhibit great skill, and the leather manufactured there is exported to all parts of the world.

Morocco and Fez are the most important cities. The sultan holds court at one and the other, alternately.

Algeria is a French possession, and contains a large European population. It is one of the most prosperous of the Barbary States.

Several lines of railway are in operation, and caravans, trading in ivory, gums and ostrich feathers, penetrate the interior of Soudan.

Algiers is the capital and commercial center. It is conne with Marseilles by a submarine telegraph cable.

Tunis, also, is a French possession. It was formerly subjec Turkey. It is noted for its olive groves, date plantations, c fisheries, and the manufacture of red caps, soap and leather.

Tunis, near the site of ancient Carthage, is the capital and port. It is a very old city.

Tripoli, though nominally a Turkish province, is a desp monarchy, governed by a bey.

It contains no rivers, and rain seldom falls; yet, on accoun heavy dews, the soil is productive.

The leading exports are wool, hides, and ivory.

Tripoli is the capital and sea-port. Mourzouk, the capita Fezzan, is the center of a large caravan trade,

The Nile Countries comprise Egypt proper, Nubia, and Egyptian Soudan, or Kingdom of the Mahdi. They are gover by a hereditary monarch called the khedive, and are subjec Turkey.

The greater part of Egypt is a desert. Along the lower co of the Nile, only the narrow valley, which is annually inunda is capable of producing crops.

Since the completion of the Suez canal rapid progress has made in developing the agricultural and commercial interest Egypt.

Railways have been built, and by means of irrigating ca extensive tracts of desert land have been made productive.

Most of the wealthier classes have been educated in Europe, foreign customs are being introduced throughout the coun The laboring classes are greatly oppressed, and are practicall a state of slavery.

The principal products of Egypt are cotton, grain, sugar rice. Gum arabic, ivory, indigo, and ostrich feathers are obta in the Soudan. Manufactories have been established in the la cities and towns.

Cairo, the capital of Egypt, is the largest city in Africa. A andria is the principal sea-port. Railways connect both cities Suez, the southern sea-port of the Suez Canal. The norther Mediterranean, seaport of the canal is Port Said.

The other seaports of Egypt are Rosetta and Damietta.

Nubia and the Egyptian Soudan are inhabited by warlike t of Arab and Negro descent.

Khartoum, at the junction of the Blue and the White Nil the center of a large caravan trade.

Abyssinia is a high and rugged plateau, containing a nu of fertile valleys. The climate, owing to the high altitude o surface, is mild and healthful. The people, though of a dar swarthy complexion, belong to the Caucasian race, and co chiefly, of Copts and Berbers, who are ignorant and degraded

Abyssinia consists of several independent states, havin general government.

Gondar is the capital. Massowah, an Egyptian possession, is the only sea-port.

South Africa comprises several prosperous colonies. Some of these belong to Great Britain, others are independent states founded by Dutch settlers, while others still are the homes of native tribes.

Cape Colony and Natal are British colonies. The surface of the land is high, undulating and well adapted to grazing.

The leading occupations are the raising of cattle and sheep, and the rearing of ostriches. Wool and ostrich feathers are among the most valuable exports.

Cape Town, the capital of Cape Colony, is the chief sea-port of South Africa.

Pietermaritzburg is the capital of Natal.

West Griqualand, also a possession of Great Britain, contains the most productive diamond mines in the world.

Kimberly, its capital, is situated in the diamond fields, and is the chief market for rough diamonds.

Caffraria and Zululand are inhabited by natives who are noted for their intelligence, fine physical appearance and great bravery. Both countries are governed by native chiefs, although subject to Great Britain.

The Orange Free State and the South African Republic (formerly Transvaal) are inhabited by Dutch farmers, called Boers. The Boers are noted for their bravery and love of independence.

Bloemfontein is the capital of the Orange Free State, and Pretoria of the South African Republic. Wool, cattle and grain are the exports.

Central Africa includes the regions comprised in Sahara, or the Great Desert, Soudan, the Congo Free State and the territory southward to the Boer republics.

Sahara contains about twenty oases, inhabited by wandering tribes, who live chiefly by plundering the caravans.

Soudan is inhabited by semi-barbarous tribes, each of which is governed by a chief, whose will is law.

Their occupation is herding cattle, but they are constantly at war with one another.

Timbuctoo, Sackatoo and Kouka are centers of a large caravan trade.

The Congo Free State embraces the basin of the Congo River. It is subject to the King of Belgium.

Zanzibar is a strip of coast nearly 1,000 miles long, including a number of small islands. It is an absolute monarchy, governed by a sultan.

Zanzibar, on an island of the same name, is the capital. It is the center of a large trade in ivory, gum copal and spices. Trade is almost exclusively in the hands of Hindoo and Arab merchants.

Mozambique includes a number of Portuguese colonies, extending from Zululand to Zanzibar. The city of Mozambique, the chief center of trade, is the residence of the Governor-General.

The West Coast is covered with forests of valuable timber. The highlands contain gold and silver.

Senegambia includes most of the basins of the Senegal and Gambia rivers. English and French traders have settled along the coast.

Sierra Leone is a prosperous English colony. It is inhabited by Negroes, many of whom were rescued from slave-ships. Freetown is the capital.

Liberia is a small republic, originally established as a colony for freed slaves from the United States. Monrovia is the capital.

Dahomey and Ashantee are absolute despotisms.

The natives are superstitious, warlike and ferocious. In Dahomey wholesale murders, or human sacrifices, form part of certain celebrations. Here the king has an army of women whose weapons are muskets, swords and clubs. Ashantee, also, is ruled by a native king, who is independent.

Madagascar, a kingdom, contains a civilized population, whose principal industries are agriculture and herding.

St. Helena belongs to Great Britain; the Canary Islands to Spain; the Madeira, the Azores and the Cape Verd Islands to Portugal.

NORTH AMERICA.

North America is the northern division of the western continent. It extends almost from the North Pole to the Equator.

The shape of North America is nearly that of a triangle, broad at the north and tapering almost to a point at the south. Its length is nearly 5,000 miles. Its area is equal to one-half that of Asia, or two and one-half times that of Europe. Its northern and eastern coasts are remarkable for numerous indentations and good harbors, while the western coast has but few.

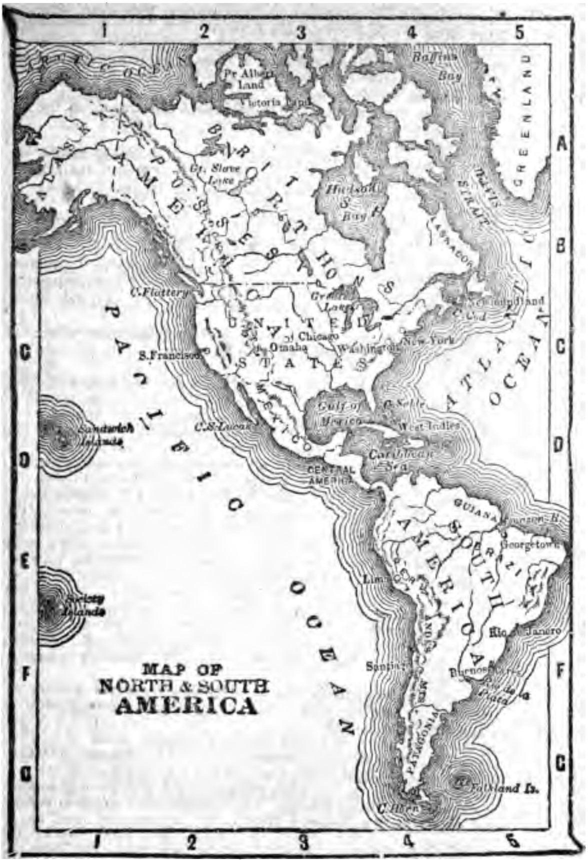
The western part of the continent is a high plateau, on which are many nearly parallel ranges of mountains. The direction of these ranges is from north-west to south-east. They constitute the Rocky Mountain system, and form the main axis of the continent. The culminating ranges of this system inclose a large, oval-shaped plateau, called the Great Basin.

The Appalachian system, in the eastern part, is composed of several parallel ranges, extending from north-east to south-west. Their average height is about 3,000 feet, or about one-third that of the Western Highlands,

Volcanoes are numerous in the Western Highlands, and several of them are constantly active.

The highest peak of the Rocky Mountain system is Mt. St. Elias, 19,500 feet; and of the Appalachian system, Mt. Mitchell, 6,707 feet.

The great central plain, extending from Hudson Bay to the Gulf of Mexico, lies between the two mountain systems. The Height


MAP OF
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ARCTIC OCEAN
Pr Albert Land
Victoria Land
Baffins Bay
GREENLAND
Davis Strait
ALASKA
BRITISH AMERICA
POSSESSIONS
Gt. Slave Lake
Hudson Bay
LABRADOR
C. Flattery
Great Lakes
Newfoundland
C. Cod
UNITED STATES
Chicago
Omaha
Washington
New York
S. Francisco
ATLANTIC OCEAN
PACIFIC OCEAN
Sandwich Islands
C. S. Lucas
MEXICO
Gulf of Mexico
C. Sable
West Indies
Caribbean Sea
CENTRAL AMERICA
GUIANA
Amazon R.
Georgetown
SOUTH AMERICA
BRAZIL
Lima
ANDES
Society Islands
Rio de Janeiro
Santiago
Buenos Ayres
Rio de la Plata
PATAGONIA
Falkland Is.
C. Horn

of Land, an almost imperceptible divide crosses the plain, separating the Arctic Slope from the Gulf Slope.

The lakes of North America are remarkable for their number and size. If a straight line were drawn from Chesapeake Bay to the mouth of the Mackenzie River, it would pass through nearly every large lake in North America.

The great lakes contain about one-half the fresh water on the globe. Lake Superior, the largest, however, is exceeded in size by Lake Victoria, in Africa.

Salt and alkaline lakes are numerous in the Pacific highlands. Great Salt Lake, in Utah, has an area twice that of Rhode Island. With the exception of the Caspian Sea, it is the largest salt lake on the globe.

The Mississippi basin is the largest basin in the world, excepting that of the Amazon river. Its chief stream, the Mississippi and Missouri, exceeds every other river in length.

The Yukon river, second in size, is, in many respects, unlike any other river on the continent. Its upper course is remarkable for falls and rapids. Its lower part contains many islands, and is often five and six miles wide.

The Columbia, Colorado, and many of their tributaries which rise in the interior of the continent, flow, in some places, through deep canons.

The soil is very productive. The Mississippi basin and the slopes of the Atlantic ocean and the Gulf of Mexico contain soil of great fertility. On the Pacific coast the climate is much milder than in corresponding latitudes on the Atlantic coast. The northern part of the continent is extremely cold; the central portion is characterized by hot summers and cold winters; the southern part, has a tropical climate. The rain-fall is greatest in the north-west and south-east. The rains of the Pacific Coast fall mostly in winter. In northern regions, vegetation is limited to mosses, lichens, and a few shrubs. A belt of cone-bearing and deciduous trees extends through the middle of the Temperate Zone. In the south, these are replaced by palms, tree-ferns, bananas, and agaves. Grasses are abundant throughout the Temperate Zone. Indian corn and tobacco are native to North America.

The fur seal, whale, walrus, polar bear, and musk-ox are the most important animals of the northern regions. The bison, deer, bear, wolf, and panther are common in the north central part. The grizzly bear is found in North America only. The monkey in the tropical regions.

Reptiles are numerous in the south. Nearly 500 species of birds are known. Fish are abundant; the cod, salmon, herring and mackerel are valuable as food.

The mineral resources of North America surpass those of any other continent. Iron and coal, minerals on which civilization and commerce so greatly depend, are abundant and widely distributed. Petroleum and natural illuminating gas are found in the Alleghany Mountains and the Coast Range. Gold, silver, and quick-silver are found chiefly in the Western Highlands; copper and lead, in the vicinity of the Great Lakes; and zinc, in the Eastern Highlands.

American Indians inhabited North America at the time of the explorations in the 15th and 16th centuries. A civilized people preceding these had disappeared from the region which now constitutes the United States, as the ruins of their habitations bear witness.

Civilized people were found by the Spanish explorers of Mexico. They were conquered by the Spaniards, and gradually disappeared.

The Esquimaux, who are found in the Arctic regions only, are thought by many to be of Mongolian origin. The Indians, also, are said to be of Mongolian descent, and to have come, originally, from Asia.

The white race, the ruling element of the population, are the descendants of Europeans. The inhabitants of Mexico and Central America are the descendants, in part, of Spaniards and native Indians.

The Negroes, originally brought to America as slaves, are fast becoming educated.

Industries.—The geographical distribution of the various industries is more noticeable in North America than in the other continents. Foreign commerce, manufactures, and fisheries are confined chiefly to the coasts and navigable streams.

Agriculture is carried on, principally, throughout the fertile prairies and river-valleys of the interior. Stock-raising is most profitable where there are mild winters and an abundance of grass.

Mining is a leading industry in the highlands.

North America includes Danish America, British America, the United States of America, Mexico, Central America and the West Indies.

Danish America belongs to the Kingdom of Denmark. It comprises Greenland, Iceland, and a few smaller islands.

Greenland extends farther north than any other country, or to within about 400 miles of the North Pole. Its area is nearly one third that of the United States.

The surface of Greenland is covered with ice and snow. The coasts are scored by enormous glaciers. The products are fish, oil, and reindeer skins.

The people comprise a few Danes and a number of Esquimaux tribes.

Iceland, which is about half the size of Kansas, is noted for volcanoes, geysers, glaciers, and lava fields. Its southern part has a milder climate than its northern, and contains all the settlements.

The Icelanders are generally educated. Their trade is carried on with Copenhagen, the capital of Denmark. Their capital, Reikiavik, contains a college.

THE UNITED STATES.

A Republic, it is the middle division of North America. Alaska, a territory occupying the northwestern part of North America, is partly in the North Temperate Zone and partly in the North Frigid Zone. It was purchased from Russia by the United States. Extends from the Atlantic Ocean on the east to the Pacific Ocean on the west, from the Dominion of Canada on the north to the republic of Mexico and the Gulf of Mexico on the south. The distance across the United States from east to west through the center, is about 2,600 miles, and from north to south about 1,600 miles. The shortest distance between the Dominion of Canada and the Gulf of Mexico is about 800 miles.

The high mountains and plateaus of the United States are in the western part. There the mining of gold and silver, and the raising of cattle and sheep, constitute the leading occupations of the people.

The plains, prairies, slopes and lowlands extending from the great highland region eastward to the Atlantic Ocean, are remarkable for their fertile soil, which produces immense crops of grain, cotton, fruits and vegetables.

The valleys of the Pacific Slope are noted for their mild, genial climate and their great yield of wheat, fruits and vegetables.

Coal and iron are mined extensively in various parts of the United States

The variety and importance of the products and industries this country are due principally to its vast extent of territory a its great diversity of soil, elevation and climate.

Its increase in population, wealth and power is unsurpas A century ago there were but thirteen states, containing less 4,000,000 inhabitants. Now there are thirty-eight states, te ritories, and the District of Columbia, with a total populati more than 60,000,000. A territory is under the control of th eral Government of the United States, until it is admitted Union as a state by Congress. The original thirteen sta New Hampshire, Massachusetts, Rhode Island, Connecti York, New Jersey, Pennsylvania, Delaware, Maryland, North Carolina, South Carolina and Georgia. The f admitted after them were Kentucky, Vermont, T nne Louisiana, Indiana and Mississippi.

The first colonies in the region now called the U were established by the English, in Virginia, in Dutch, in New York, in 1613; and by the Pilgrims, setts, in 1620.

All were subject to Great Britain from 1664 to thirteen colonies declared themselves free and ind

Each state has its own constitution, laws, legi ernor, while all the states are united under the laws of the United States. A state is entitled United States Senate by two senators, ives by one member for every

Every state is entitled to, at least, one member. A territory may send a delegate to the House but he has no vote. There are at present 76 senators and 325 members of the House of Representatives. The states which have the largest representation in the House are New York 34 members, Pennsylvania 28, Ohio 21, and Illinois 20. The states and territories of the United States have legislatures consisting of two houses similar to those of Congress, elected by the people. They are divided into counties, which are, in some cases, subdivided into townships. The divisions of Louisiana corresponding to counties are called parishes. The highest officials in a state are the Governor, Lieutenant-Governor, Secretary of State, Attorney-General, and Superintendent of Schools. Towns and villages are collections of houses and inhabitants. Cities have certain rights and privileges not possessed by towns and villages. The affairs of a city are usually controlled by its mayor and aldermen. A county seat is the chief town in which the official business of the county is conducted.

The general government comprises three departments, the legislative, the judicial and the executive. It has control of all matters pertaining to commerce and treaties with foreign countries, the army and navy, the declaration of war, the post-offices, and the coining of money.

The legislative power is vested in Congress, which consists of the Senate, (composed of two senators from each state, chosen by the state legislature, for six years. The Vice-president of the United States is the president of the Senate) and House of Representatives. Congress holds its sessions in Washington. The session of Congress begins on the first Monday in December of each year. A law cannot take effect unless passed by both the Senate and the House of Representatives, and approved by the President. If, however, he disapprove a measure which has been passed by both houses of Congress, it may become a law on being repassed by two-thirds of each house.

The judicial power is vested in the Supreme Court, which interprets the laws. The Supreme Court consists of a chief-justice and eight associate justices, all appointed for life by the president with the consent of the Senate.

The executive power is vested in the President, whose duty is to execute or enforce the laws. He is elected for four years. The President and Vice-President are elected by a number of electors, called the electoral college, chosen by the people of the states, or their legislatures. Each state is entitled to a number of electors, equal to the whole number of senators and representatives to which it is entitled in Congress. In case of a vacancy in the office of President, it shall be filled by the Vice-President. If there be no Vice-President, the law of 1886 vests the succession in those members of the cabinet who are constitutionally eligible, in the following order: Secretary of State, Secretary of the Treasury, Secretary of War, Attorney-General, Postmaster-General, Secretary of the Navy, and Secretary of the Interior.

MEXICO.

Mexico is a republic, composed of twenty-seven states, a federal district and the Territory of Lower California. **It is situated in the** North Temperate and the Torrid Zone, **and is about one-fourth the** size of the United States.

The surface is a high plateau, fringed by a belt of low, narrow coast. Several ranges of the Rocky Mountain System, of which the Sierra Madre is the highest, extend through the country from north-west to south-east.

A chain of volcanoes crosses the highest part of the plateau. The summits of several of these are above the limit of perpetual snow. Vol. Popocatepetl is the highest mountain in Mexico, and, next to Mt. St. Elias, the highest in North America.

The lakes are small and unimportant. Most of them are situated in the Valley of Mexico.

The rivers are short, and, excepting the Rio Colorado and Rio Grande, not navigable above tide-water.

The climate is hot and pestilential along the narrow coast, but mild and healthful in the high interior. In going from Vera Cruz to the city of Mexico, one may, within a few hours, experience nearly every gradation of climate, and find the productions peculiar to each zone. There are but two seasons; the rainy, and th dry.

The vegetable productions comprise mahogany, rose-wood, me quite, various dye-woods, the agave, and cactus. **Orange** lemons, pine-apples, olives, and bananas are extensively cul vated. Tobacco, corn, sugar-cane, cocoa, beans, coffee, vanill and the indigo-plant are also grown.

The wild animals of Mexico comprise the grizzly bear, puma Mexican lion, and coyote. Venomous reptiles and insects numerous. Cattle, horses, and donkeys, in vast numbers, are principal domestic animals.

The minerals include gold, silver, tin, quicksilver and marbl

The leading industries are agriculture, stock-raising, and ing. Coffee, sugar, cotton, cochineal, vanilla, metals, hides, ornamental woods are exported. Great progress has been rec made in the building of railroads; but the unsettled conditi the government depresses every kind of industry.

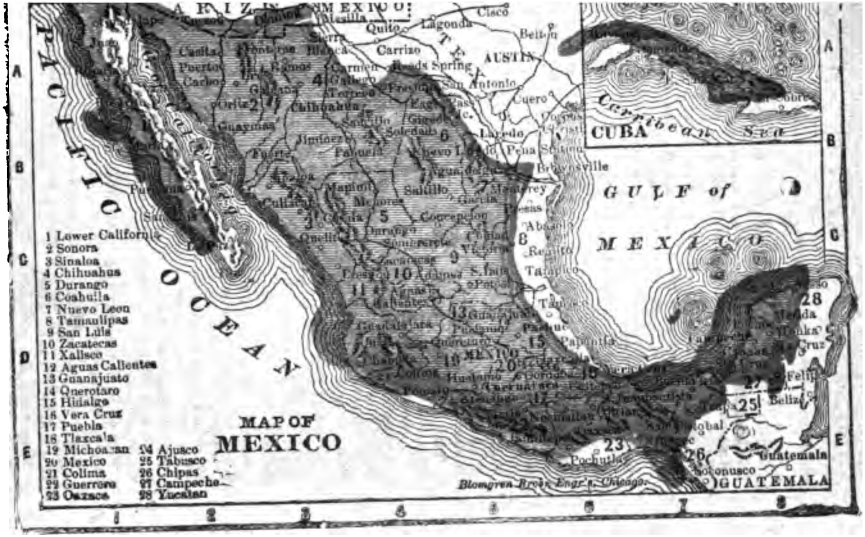
The people consist chiefly of mixed races. About one-ten Creoles, or descendants of Spanish colonists. Spanish i language of the country.

Mexico, the federal capital, is the metropolis. It is i *Valley of* Mexico, elevation about 7,400 feet above sea-level.

Guadalaxara and *Puebla* are manufacturing centers.

Vera Cruz is the chief Atlantic sea-port.

Acapulco and Guaymas are the principal ports on the ***Coast of Mexico.***

MAP OF
MEXICO
1 Lower California
2 Sonora
3 Sinaloa
4 Chihuahua
5 Durango
6 Coahuila
7 Nuevo Leon
8 Tamaulipas
9 San Luis
10 Zacatecas
11 Xalisco
12 Aguas Calientes
13 Guanajuato
14 Queretaro
15 Hidalgo
16 Vera Cruz
17 Puebla
18 Tlaxcala
19 Michoacan
20 Mexico
21 Colima
22 Guerrero
23 Oaxaca
24 Ajusco
25 Tabasco
26 Chipas
27 Campeche
28 Yucatan
PACIFIC OCEAN
GULF of MEXICO
Caribbean Sea
CUBA
GUATEMALA
Guatemala
Soconusco
Beliz
ARIZONA
NEW MEXICO
TEXAS
AUSTIN
San Antonio
Laredo
Brownsville
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CENTRAL AMERICA.

Central America forms the most southern part of North America. It comprises five republics, and the British colony of Balize.

The surface resembles that of Mexico, being a high plateau situated between low coasts. The climate, however, is hotter and more moist, and its vegetation more luxuriant.

It contains several volcanoes. Destructive earthquakes are of frequent occurrence.

The principal products are coffee, dye-woods and sugar. Gold, silver, and coal are found in the highlands.

The inhabitants are chiefly meztizos and Indians. The white people are mainly of Spanish descent. There are many European merchants and planters in Balize and Costa Rica. The language of the country is Spanish.

Guatemala, the largest city of Central America, is the chief commercial port.

The West Indies comprise two chains of islands, extending southeast from the coast of North America.

The Bahama Islands, about 600 in number, are low, coral formations. Their climate is warm and healthful.

The sponge fisheries constitute the chief industry.

Oranges, lemons and pine-apples are the principal fruits. Salt is obtained from the lagoons of Turk's Island, by evaporation.

Nassau, the capital and commercial port, is situated on Providence Island.

The Greater Antilles comprise the islands of Cuba, Hayti, Jamaica, and Porto Rico. Their surface is mountainous; their climate and productions are those of tropical regions. The population is made up of Spaniards, Creoles and Negroes.

Cuba exports sugar, molasses, coffee, fruits, tobacco and cigars. Its forests contain ebony, mahogany and rosewood.

Havana, the capital, is the center of a vast commerce. It is an important sugar market.

Matanzas also is an important city in Cuba.

The Island of Hayti comprises two independent republics, Hayti and Santo Domingo. The people and their rulers are Negroes.

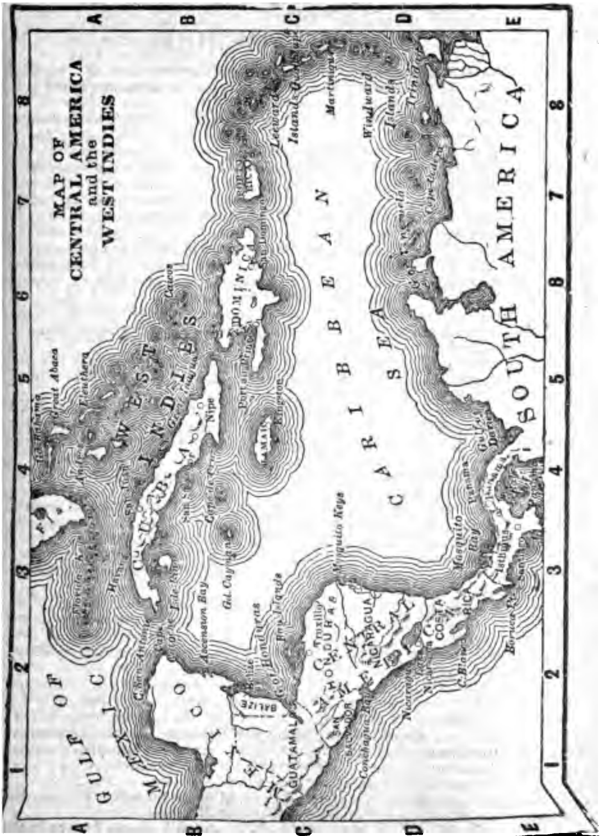
Port au Prince is the capital of Hayti; and Santo Domingo of Santo Domingo.

Jamaica yields allspice, in addition to the products which are similar to those of the other islands. Rum is the principal export. Turtle-fishing is important.

Kingston is the capital.

Porto Rico contains many large and fertile plains.

The Lesser Antilles extend from Porto Rico to the mouth of the Orinoco River.


MAP OF
CENTRAL AMERICA
and the
WEST INDIES
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GULF OF MEXICO
MEXICO
BALIZE
GUATEMALA
SAN SALVADOR
HONDURAS
NICARAGUA
COSTA RICA
WEST INDIES
CUBA
JAMAICA
DOMINICA
PORTO RICO
CARIBBEAN SEA
SOUTH AMERICA
Florida
Great Abaco
Eleuthera
Andros
Havana
C. San Antonio
Isle of Pines
Nipe
Caicos
Kingston
Port au Prince
St. Domingo
Leeward Islands
Martinique
Windward Islands
Trinidad
Caracas
Accension Bay
Gt. Cayman
Bay Islands
Belize
Truxillo
Mosquito Keys
Mosquito Bay
Panama
Gulf of Darien
C. Blanco
Conchagua Bay
Burica Pt.

SOUTH AMERICA.

South America was discovered by Columbus in 1498, near the mouth of the Orinoco. The early Spanish discoverers found an Indian village near Lake Maracaybo, built over the water on piles. As it reminded them of Venice, they called it Venezuela, which means Little Venice.

Balboa, in 1513, crossed the Isthmus, and was the first man who saw the Pacific Ocean from the coast of the Western Continent; but, long years before this, the ancient Peruvians had lived there. They had built strong cities, fine temples, great aqueducts, and splendid roads and bridges, ruins of which still remain. Peru was invaded by the Spaniards, under Pizarro, who cruelly treated the natives, destroying their cities and plundering their temples.

South America was thus conquered and settled by Spaniards, except Brazil, which was settled by Portugese, and Guiana, which was settled by British, Dutch and French.

About 300 years afterward the people of the countries of South America (except Guiana) declared themselves independent of Spain and Portugal.

Simon Bolivar was the most distinguished general and patriot of South America. He was called the "Liberator," also the "Washington of South America."

South America is the Southern part of the Western Continent. Its area is nearly twice that of the United States. In shape it is a triangle, which tapers to a point toward the south. The coast line has but few indentations.

Like North America it has mountain ranges in the west and east and a vast plain in the center.

The Andean Plateau, the main axis of the continent, extends along the entire western coast. It supports parallel ranges, which constitute the Andean System. Its high peaks are always covered with snow. The highest measured peak is Mount Aconcagua, which is about 24,000 feet in height. The most celebrated volcano is Cotapaxi.

The plains of South America cover about one-half its area. The llanos of the Orinoco are treeless plains. During the rainy season they become a vast inland sea. With the disappearance of the water comes a profusion of tropical vegetation, which quickly withers under the intense heat of the sun.

The largest lakes in South America are Maracaybo and Titicaca. The latter is 12,000 feet above the sea-level.

The Amazon is the largest and one of the longest rivers in the world. Its course is nearly along the Equator. Its highest source is within 70 miles of the Pacific Ocean. At its mouth the river is nearly 200 miles wide. Its current and the freshness of its wat are perceptible 200 miles out at sea.

The soil is fertile in nearly all parts of the continent. The sc ern part, however, is barren, rocky and desolate.

The climate along the sea-coast is generally warm, excep south. In the interior of the lowland plains, the heat i intolerable.

The banks of the Amazon produce a wonderful variety of ornamental woods, such as mahogany, rosewood, vegetable-ivory, and tortoise-shell wood. The India rubber, cacao, and cocoa-palm trees are abundant.

The lowlands abound in wild grasses, and on the mountain slopes are found the cinchona-tree and many kinds of medicinal plants.

The chief cultivated plants are coffee, sugar-cane, cotton, tobacco, indigo, manioc, and spices.

Minerals.—South America is rich in minerals. A large part of the silver now in use in the world was obtained from the Andes Mountains. Gold is mined in Colombia and Brazil.

Industries.—The chief industries of the inhabitants of South America are herding, agriculture, and mining.

BRAZIL.

The Empire of Brazil, the largest country of South America, is the only monarchy in the New World.

It comprises the eastern plateau and the basins of the Amazon and the La Plata. The northern and western parts are low, swampy, and, during the rainy season, completely inundated.

Near the coast, the valleys are rich and well cultivated.

The greater part of the country has a tropical climate.

Coffee, cotton, sugar, tobacco, rice, grain, tropical fruits, nuts and spices are raised in abundance.

The leading industries are cattle-raising and agriculture.

The natives live in the interior. The ruling people are th Portuguese, or their descendants.

Rio Janeiro, the capital, is the largest city in South America. Its chief exports are coffee and India rubber.

Bahia is the center of the diamond trade.

The Andes Republics comprise the United States of Colombia, Ecuador, Peru, Bolivia, and Chili occupy the mountainous region along the coast of the Pacific Ocean.

The coast is very steep, affording few harbors.

The surface is rugged. The high plateaus are barren, but the mountain sides and the valleys afford pasturage, and yield grain and other products.

This region is subject to earthquakes, and it contains some of the most celebrated volcanoes in the world.

The governments are republican in form, modeled after our own; but they are subject to frequent revolutions.

Bogota, although within four and a half degrees of the Equator, has a climate of perpetual spring, due to its altitude of nearly 9,000 feet. Its wet seasons are our spring and autumn; its dry seasons, our summer and winter. It is warmest in February, and coldest in December. Grain is sown twice a year. Most the houses are built but one story high, owing to the frequency earthquakes. There are, however, many large, splendid buildi

Panama, on the isthmus, is the largest and most important

It is connected by railroad with Colon, or Aspinwall. Its climate is tropical and unhealthy.

Quito, the capital of Ecuador, is situated on a very high plateau, surrounded by volcanoes.

Guayaquil is the chief commercial city.

Lima, a few miles from the coast, is the capital of Peru. Its port is Callao.

Arequipa was several times destroyed by earthquakes.

La Paz is the capital and largest city of Bolivia.

CHILI.

Chili is the most powerful and enterprising of the Spanish-American republics.

It is the same in extent from north to south as the United States from east to west — about 2,600 miles.

It is situated on the western slope of the Andes and extends from the Bay of Arica to Cape Horn.

Along the coast are numerous islands, which are rich in guano and niter.

Its climate is temperate and moist.

The people are chiefly of Spanish origin. They are active, industrious and intelligent.

Santiago is the capital. Valparaiso is the largest commercial city on the west coast of South America.

The Argentine Republic is a broad and level country, comprising most of the pampas.

The people are engaged in herding and in preparing dried beef, hides, tallow and horns, for export.

Buenos Ayres, the capital and largest city, has an extensive commerce.

Paraguay and Uruguay resemble the Argentine Republic in surface, products and the occupations of the people.

Montevideo, the capital of Uruguay, is an important commercial city.

Asuncion is the capital of Paraguay.

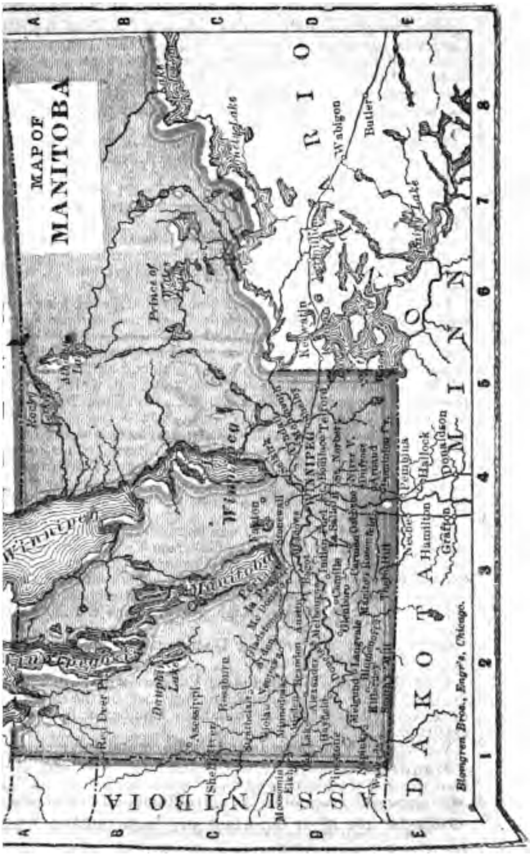
Venezuela lies almost entirely within the basin of the Orinoco. Its climate is tropical.

The people are engaged in cattle-raising and agriculture. Hides, meat, tallow, coffee, cocoa, cotton, sugar and dye-woods are exported.

Caracas is the capital. It has frequently suffered from earthquakes.

Guiana embraces three colonies—British, French and Dutch. *Its products* are like those of Venezuela.

Cayenne is the capital of French Guiana, Georgetown of British *Guiana, and* Paramaribo of Dutch Guiana.



Blomgren Bros., Engr's, Chicago.

to the Great Lakes. The St. Lawrence, Nelson and rivers drain the principal basins.

The climate of the Pacific Slope is mild, but el winters are of great severity. The summers are short southern provinces hot.

A belt of timber, mostly pine, extends from the Rock to the Atlantic ocean. The Pacific Slope is covered wi fir, the valley of the St. Lawrence contains growths of and elm.

The central prairie regions are covered with luxuri wild grasses, and, where cultivated, yield large crops

The wild animals comprise the bison, bear, moose, v otter, ermine, mink and marten, most of which are hun skins. The coast waters abound in seal, cod and saln

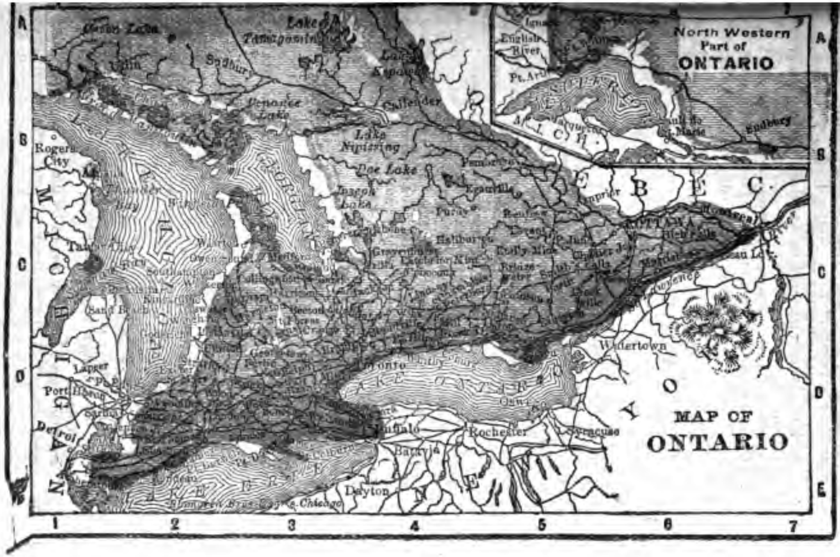
The minerals comprise gold, silver and coal, which the west. Copper and iron are found near Lake Sup is mined in Nova Scotia also.

The chief industries in the eastern provinces are lur fishing. The central regions are agricultural. The regions of the north yield valuable furs in great quant

Most of the inhabitants are of English descent. In provinces, however, there are many descendants o French settlers.

The government of the dominion is vested in the General and Parliament. The Governor-General is a the sovereign of Great Britain. Parliament consists and a House of Commons. The members of the appointed by the Governor-General. The members o are elected by the people. Each province has a Lieu ernor and a legislature.

Ottawa is the capital of the Dominion of Canada


MAP OF
ONTARIO
North Western
Part of
ONTARIO
English River
Pt. Arthur
Sault Ste. Marie
Sudbury
Lake Timagami
Sudbury
Lake Nipissing
Doe Lake
Callender
Pembroke
Q U E B E C.
OTTAWA
Montreal
Haliburton
Rogers City
Port Huron
Detroit
Toronto
Buffalo
Rochester
Syracuse
Watertown
Batavia
Dayton
M I C H I G A N
N E W Y O R K
LAKE ONTARIO
LAKE ERIE
LAKE HURON
GEORGIAN BAY
A
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export is lumber.

The people of this province are, chiefly, descenda French settlers.

Quebec, the capital, is the oldest city in the don heights, on which the upper portion of the city is built, fortified. The fortress of Quebec, next to that of Gibr sidered the strongest in the world. It was, however, General Wolfe during the French and Indian War. 1 business part of the city occupies the low ground.

Montreal, the metropolis, is noted for its magnificen and the tubular bridge across the St. Lawrence River.

New Brunswick is noted for lumber and ship-bui

Fredericton is the capital of New Brunswick.

St. John is the metropolis and largest port.

Nova Scotia has more sea-coast than any oth Ship-building and the fisheries constitute the chief ind coal fields are extensive. Gold and gypsum are also

Halifax, the capital, has an excellent harbor, and British naval station in North America.

Prince Edward Island, the smallest province, densely populated. Agriculture and fishing are the ions. Fish and eggs the principal exports.

Charlottetown is the capital.

Newfoundland is noted for its barren soil, cold dense fogs.

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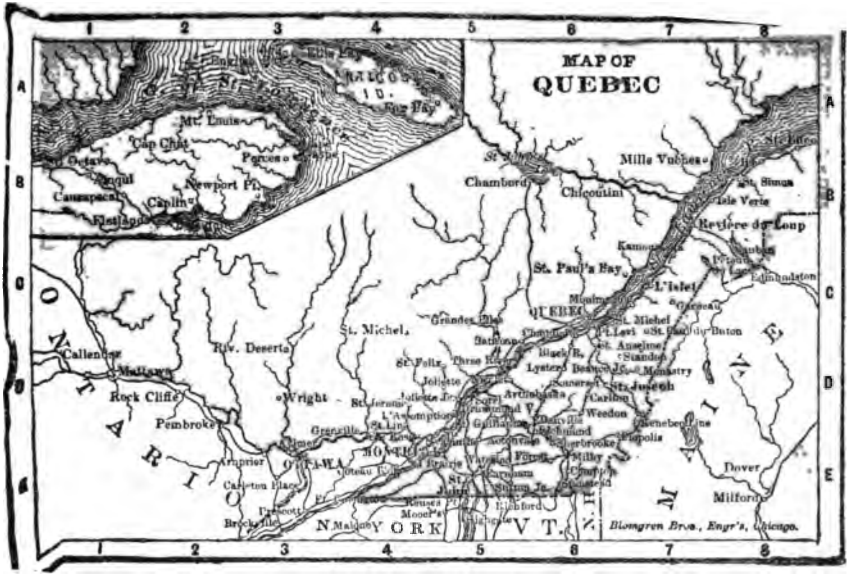
MAP OF
QUEBEC
ANTICOSTI ID.
Mt. Louis
Cap Chat
Perces
Gaspe
Newport Pt.
Caplin
Cascapedia
Chambord
Chicoutimi
Mille Vaches
St. Simon
Isle Verte
Reviere du Loup
Kamouraska
St. Paul's Bay
L'Islet
QUEBEC
St. Michel
St. Michel
Grandes Piles
Batiscan
St. Felix
Three Rivers
Joliette
Riv. Deserts
Wright
St. Jerome
L'Assumption
Arthabaska
Weedon
Sherbrooke
St. Joseph
Granville
Aylmer
OTTAWA
MONTREAL
Arnprior
Carleton Place
Prescott
Brockville
Pembroke
Rock Cliffe
Mattawa
Callendar
Dover
Milford
Edmundston
ONTARIO
N. YORK
VT.
N.H.
MAINE
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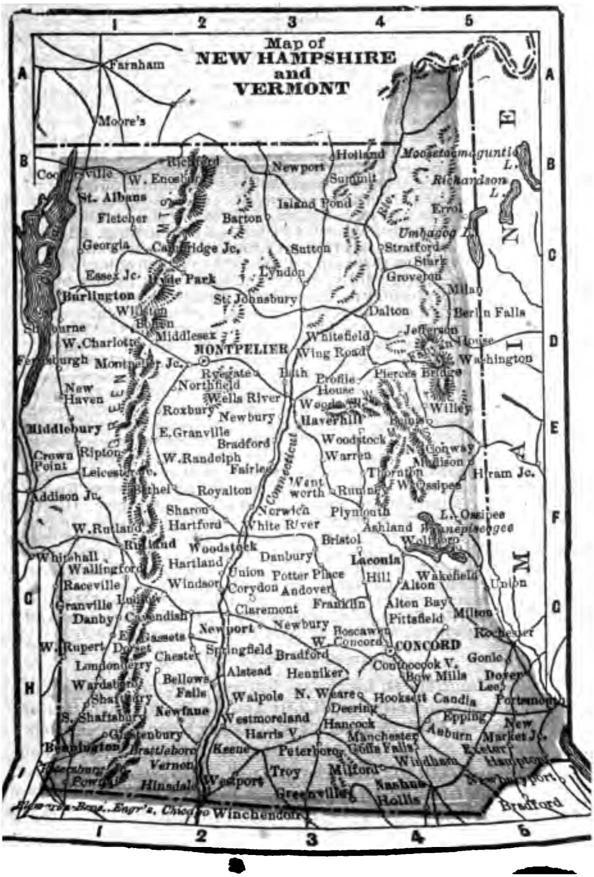
E
Blomgren Bros., Engr's, Chicago.

NEW HAMPSHIRE.

One of the thirteen original states. Named for Ham
county, England, called the "Granite State." Ratified U
States Constitution June 21, 1788. Union soldiers 33,937.
ber counties 10; miles railroad 1,124. All elections Tuesda
first Monday in Nov., number senators 24, ropresentativ
sessions of legislature biennial, in even-numbered years,
ing first Wednesday in June. Terms of senators and repre
tives 2 years each. Number electoral votes 4, congress
number voters 195,138. Paupers excluded from voting.
mouth College, at Hanover, founded 1769. Compulsory
tion law, common schools excellent, school age 5-15. Le
terest 6 per cent, usury forfeits three times the excess. P
tion, census of 1890, 376,530. Extreme length N. and S. 181
extreme width 92 miles, area 9,005 sq. miles—5,763,200
Coast line 18 miles. Highest peak Mt. Washington. Larges
Winnipiseogee, 74 sq. miles General elevation 1,200 ft.
of Shoals form part of state. The White Mountains occu
northern part of the state with unsurpassed scenery. Soil
with small fertile districts. Hay best crop; corn, whea
and ordinary vegetables do fairly with close cultivation.
ests largely exhausted, except at the north. Cleared land
age $16⅔ and woodland $25 per acre. Mica quarried at Gr
soapstone at Haverhill, Keene and Francestown, granite
mouth, Troy, Roxbury, Concord. State ranks high in
manufacturing. CLIMATE.—Winter averages 24, summer
Extremes great in White Mountains. Summer short an
with violent storms. Rainfall 41 inches. Frost late in spri
early in fall. Winter begins in Nov., cold till May. Sno
two-thirds of year in mountains, elsewhere 70 to 130
Health good. PRINCIPAL INDUSTRIES.—Agriculture, man
ure of cotton, woolens, lumber, leather, boots and shoe
Quarrying mica, granite and soapstone. PRINCIPAL CIT
Census of 1890: Manchester, 43,983, Nashua, 19,266, Co
(the capital), 16,948, Dover, 12,779, Portsmouth (chief h
9,811. The harbor of the latter place, Great Bay, never f
over.

Salaries of State Officers.

Governor	
Secretary of State	$800 an
Treasurer	
Attorney General	
Superintendent Public Institutions	
Three Railroad Commissioners	$2,000 tc
Adjutant General	
Secretary Board of Agriculture	
Librarian	
Chief Justice	
Six Associate Justices	


Map of
NEW HAMPSHIRE
and
VERMONT
1
2
3
4
5
A
B
C
D
E
F
G
H
Farnham
Moore's
Richford
W. Enosburg
St. Albans
Fletcher
Georgia
Cambridge Jc.
Essex Jc.
Hyde Park
Burlington
Williston
Bolton
Middlesex
Shelburne
W. Charlotte
Ferrisburgh
Montpelier Jc.
MONTPELIER
New Haven
Middlebury
Crown Point
Ripton
Leicester Jc.
Addison Jc.
W. Rutland
Rutland
Whitehall
Wallingford
Raceville
Granville
Danby
Cavendish
W. Rupert
Dorset
Londonderry
Wardsboro
Shaftsbury
S. Shaftsbury
Glastenbury
Bennington
Petersburg
Pownal
Newport
Barton
Island Pond
Sutton
Lyndon
St. Johnsbury
Ryegate
Northfield
Wells River
Roxbury
Newbury
E. Granville
Bradford
W. Randolph
Fairlee
Bethel
Royalton
Sharon
Hartford
Norwich
White River
Woodstock
Hartland
Windsor
Union
Corydon
Claremont
Newport
Newbury
E. Bassets
Chester
Springfield
Bellows Falls
Alstead
Walpole
Newfane
Westmoreland
Brattleboro
Vernon
Hinsdale
Westport
Keene
Harris V.
Troy
Winchendon
Holland
Summit
Connecticut
Bath
Profile House
Woodsville
Haverhill
Woodstock
Warren
Wentworth
Rumney
Plymouth
Ashland
Bristol
Danbury
Potter Place
Andover
Franklin
Boscawen
W. Concord
Bradford
Henniker
N. Weare
Deering
Hancock
Peterboro
Milford
Greenville
Nashua
Hollis
Manchester
Goffs Falls
Windham
Hooksett
Candia
Epping
Auburn
Bow Mills
Contoocook V.
CONCORD
Pittsfield
Alton Bay
Alton
Laconia
Hill
Wolfboro
Winnepiseogee
Wakefield
Union
Milton
Rochester
Gonic
Dover
Lee
Portsmouth
New Market Jc.
Exeter
Hampton
Newburyport
Bradford
Whitefield
Wing Road
Pierces Bridge
Jefferson
Dalton
Thornton
W. Ossipee
L. Ossipee
Conway
Madison
Willey
Hiram Jc.
Washington
Berlin Falls
Milan
Groveton
Stark
Stratford
Errol
Umbagog L.
Richardson L.
Mooselookmeguntic L.
N. E.
M E.
Green Mts.
Bros., Engr's, Chicago

VERMONT.

First state to join the original 13. Called the "Green Mountain State." Active in war of 1812. Union soldiers furnished, 33,288. Number counties 14. Miles railroad 960. First railroad built from Bellows Falls to Burlington 1849. State elections biennial, first Tuesday in Sept.; number senators 30, representatives 240. Sessions of legislature biennial, in even-numbered years, meeting first Wednesday in Oct. Terms of senators and representatives, 2 years each. Number electoral votes 4, congressmen 2. Bribers excluded from voting. Colleges 3. School age 5-20. Legal interest rate 6 per cent., usury forfeits excessive interest. Population, census of 1890, 332,422. Length N. and S. 149 miles, width 34 to 52 miles, area 9,136 sq. miles, 5,847,040 acres. Highest Point (Green Mountains) about 4,600 ft. Green Mountains run N. and S. through the state and are 3,000 to 4,600 feet high. The surface is generally hilly. All east of mountains drained by the Connecticut, the only navigable river. Small streams abundant. Soil rocky but good in narrow strips on streams. Potatoes best crop. Corn, wheat, oats, hay, hops and buckwheat yield moderately if well attended. Forests remain to considerable extent, but are cut over or culled. Cleared land averages $17.50 and forest land $18 per acre. Dairying profitable. Manganese, copper, iron, gold, black, white, red and variegated marble and slate are found, the marble in great abundance. State ranks 1st in quarries, 4th in copper. Temperature ranges from 15 deg. below to 95 deg. above, but changes not sudden; winter averages 18 deg. to 33 deg. Summer averages 66 deg. to 75 deg. Summer short. Rainfall greatest at south and east, where it averages 43 inches; in other sections the average is 35 inches. Snows heavy. Frosts early in fall and late in spring. Snow lies 80 to 140 days. Health excellent. Death rate very low, less than 1¾ in the 100. Industries very varied, numbering 2,900. Principal ones, agriculture, dairying, manufacture of flour, furniture, leather, tin, iron and copper ware, and lumber, mining, quarrying and finishing marbles and stones, and maple sugar making.

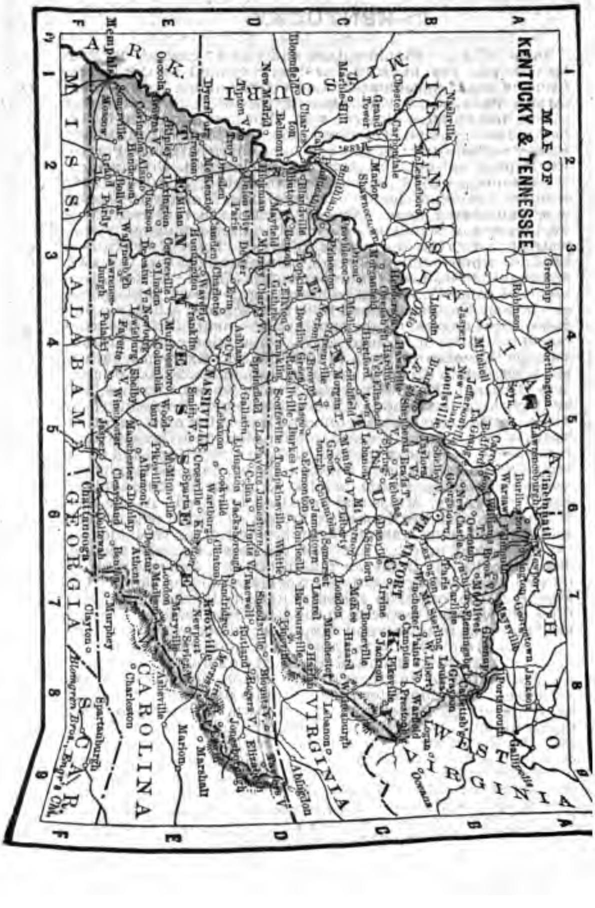
PRINCIPAL CITIES.—Census of 1890: Burlington, 14,566; Rutland, 11,770: Brattleboro and Bellows Falls are important and thriving towns and seats of large industries.

Salaries of State Officers.

Governor, $1,000; Lieutenant Governor, $6 a day: Secretary of State, $1,700; Treasurer, $1,700; Auditor, $2,000; Inspector of Finances, $500; Railroad Commissioner, $500; Adjutant General, 750; Superintendent of Public Instruction, $1,400; Chief Justice, $3,500; Six Associated Justices, $2,500; Senators and Representatives, $3 a day; District Judge, $3,500; Collector of Internal Revenue, $2,650; Collector of Customs, $1,000 and fees.

KENTUCKY.

Name Indian. Signifies dark and bloody ground, because the state was the hunting and battle ground of the tribes. Called "Corn-Cracker State." Louisville founded 1780. Admitted as a State June 1, 1792. State furnished 7,000 troops in war of 1812, and 13,700 in Mexican war. Won great credit in latter. Neutral at beginning of civil war. State the scene of continuous cavalry raids during the war, and some sharp battles at Perrysville, Richmond, etc. Put under martial law 1864. Civil government restored 1865. Union soldiers furnished, 75,760. Number counties, 118. State elections biennial, first Monday in August in odd-numbered years. Number senators 38, representatives 100, sessions of legislature biennial in even-numbered years, meeting last day of Dec., holds 60 days. Term of senators 4 years, of representatives 2 years. Number electorial votes 13, number congressmen 11, number voters 376,221. Bribers, robbers, and forgers excluded from voting. Number colleges 15, public school system framed 1838, good schools, school age 6-20 years. Legal interest 6%, by contract 10%, usury forfeits excess over 10%. Miles of railroad 2,777. Population census of 1890, 1,818,635. Number of slaves in 1860, 225,489. Extreme length E and W 350, width 179 miles, area 40,000 sq. miles, 25,600,000 acres. River frontage 832 miles, navigable water ways 4,120 miles. Soil fair, except in the famous "Bluegrass Region," extending for 40 or 50 miles around Lexington, and one of the most beautiful sections on the globe. Natural wonder Mammoth Cave, greatest in the world. Kentucky ranks high as an agricultural and stock state. Staple crops, corn, wheat, tobacco, oats, barley, hemp, rye and vegetables. Fruits do fairly. Famous for thoroughbred horses and cattle. Mules and hogs largely raised. At the East in the mountains are immense forests of virgin oak, poplar, ash, chestnut, elm, walnut, cucumber and other valuable timber trees. Coal, marbles, minerals, oil, stone, etc., also abound. Iron deposits of immense magnitude are known to exist. Cleared land averages $20 and woodland $5 per acre. The average of the former is raised materially by the high prices, often $100 or more per acre, in the Bluegrass section. Mountain lands rich in timber and minerals and not without agricultural value, rate $2 to $5 per acre. The state ranks first in tobacco and fourth in malt and distilled liquors. Climate variable, favorable to health and agriculture, healthfulness not surpassed. Thermometer ranges from 5 deg. below zero to 98 above, rarely greater extremes are known. Temperature averages, summer 75 deg., winter 38 deg., rainfall 50 inches. Snows fall, but disappear in a few days. Sleighing only for a day or so. Winters moderately long. Malaria very rare, except on the Ohio and Mississippi Rivers. Chief Cities—Census of 1890: Louisville, 161.005: Frankfort (the capital) 8,500; Covington, 37,375. Lexington, former capital, founded 8776, pop. 22,355. *Newport*, connected with Covington by bridge, pop. 24,938. *(Salaries of State Officers, page 439.)*


MAP OF
KENTUCKY & TENNESSEE
ILLINOIS
INDIANA
OHIO
WEST VIRGINIA
VIRGINIA
KENTUCKY
TENNESSEE
MISSOURI
ARK.
MISS.
ALABAMA
GEORGIA
CAROLINA
S. CAR.
Cincinnati
Louisville
Frankfort
Lexington
Nashville
Knoxville
Chattanooga
Memphis
Allengren Bros., Engr's, Chi.

TENNESSEE.

ınd State." First settled 1854. Became a part of North
1777. Organized as the State of Franklin 1785, but
.ame part of North Carolina 1788. Ceded to United
North Carolina 1789. Admitted as state June 1, 1796.
Nashville. First railroad part of N. C., 1853. Nash-
ridgeport, miles of railroad in 1890, 2,648. Seceded
861. Re-entered Union 1866. Number counties 96.
ıgressional and presidential elections, Tuesday after
lay in November, number senators 33, representatives
ıns biennial, in odd-numbered years, meeting first
n January; holds 75 days. Terms of senators and
atives 2 years each. Number electoral votes 12.
of congressmen, 10. Legal interest 6 per cent, by
any rate, usury forfeit, excess of interest and
Schools fair. Miles railroad 2.166. Population
f 1890, 1,767.518. Slaves 1860, 275.519. Extreme
. and W. 430 miles, width 110 miles, area 41,750
s, 26,720,000 acres. Mountainous at E. where
ans separate state from North Carolina. Soil fair,
central basin, where it is very productive. State
in coal, iron, fine marbles and building stones, copper
minerals. Possesses one of the finest areas of forest
ıion. Principal timbers, walnut, oak, poplar, ash,
etc. Staple products, mules, hogs, peanuts, corn,
otton, vegetables of all kinds, potatoes, tobacco,
ax, broomcorn, iron, copper, coal, marbles, etc.
cond in peanuts and third in mules. Resources but
eloped, 5,000 square miles of coal field, with 3 to 7
veins. Cleared land averages $12.50, forest $5 per
ıpe growing pays. Climate one of healthiest in world.
pleasant, and owing to varying elevation very di-
now light, and lays briefly. Ice rarely more than a
ı in thickness. Average temperature winter 38 deg.
75 deg. Extremes seldom occur. Rainfall 45 to 47
ıir bracing. Chief Cities.—Nashville, capital, 76,309;
, 64,586; Chattanooga, 29,109; Jackson; 60,022;
, 22,447; Clarksville, 8.053. Industries chiefly agri-
mining, lumbering and iron-making.

Salaries of State officers.

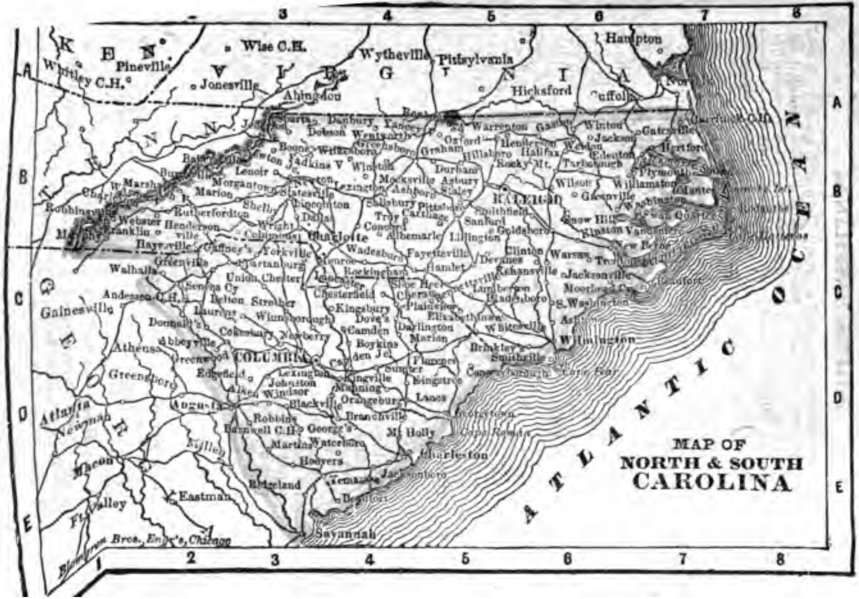
	$4,000
of State	$1,800, and fees
r	$2.750
ller	2,750
General	3,000
ıdent of Public Instruction	1,800
General	1,200
ner of Agriculture	3,000

NORTH CAROLINA.

One of the 13 original states. Called "Old North State," '
State," and "State of Turpentine." Discovered by Lor
leigh, 1584. Settled by English, 1650. State seceded May 21,
Forts, etc., seized by state troops. Soast section scene of s
fighting during civil war. State re-entered Union June,
Number counties, 96, miles of railroad, 2,844. All elec
Tuesday after first Monday in Nov. Number senators 56,
resentatives 120, sessions biennial, in odd numbered y
meeting Wednesday after first Monday in Jan., hold 60
Terms of senators and representatives 2 years each. No.
toral votes 11, No. congressmen 9. Convicts excluded from
ing. Public school system adopted 1840, at present over
public schools in operation; school age 6-21; separate sc
for whites and blacks. Legal interest rate 6 per cent, by
tract 8, usury forfeits interest. Rate of tax less than 50c on
Population, census of 1890—1,617,947. Number of slaves in
331,059. Greatest length, E. and W. 453 miles, greatest w
185 miles, area, 52,240 sq. miles, or 33,433,600 acres, less
water surface. Coast line 423 miles with many harbors
forest yet remains. Swamps extensive, most noted of the
Great Dismal, north of Albemarle sound, contains 148,000 a
Small streams abundant, water powers numerous; corn best
tobacco largest product, other staples are orchard prod
sweet potatoes, rice, wheat, oats, peanuts, cotton, hay and
tables in the order named. North Carolina ranks first in ta
turpentine, second in copper, third in peanuts and tobacco
fourth in rice. Has rich deposits of gold and the baser m
als. Stone, slate, coal, marble, mica. Excellent fisheries.
ural resources but slightly developed. Ample opportunitie
homes, enterprise and capital. Cleared land averages $10
woodland $5 per acre, and much of excellent quality in the
ket below this average. Stock thrives. Scenery va
picturesque and grand. Wheat harvested June. Corn ripe
Climate is varied, warm and moist in low sections; cool an
in mountains, with all intermediate conditions. Average w
temperature, 49 deg., summer, 78 to 79 deg. Frosts light
seldom come till the end of fall. Rainfall, including some s
in mountains, 45 in. Health good. Chief Cities, census of 1
Wilmington, 20,008; Raleigh (capital), 12,798: Asheville, 10
Winston, 7,988; Fayetteville, 4,220; New Berne, 7,832. C
lotte contains assay office, pop. 11.555. Industries—Agricul
principal occupation. Fishing, manufacture of turpentine
lumber, mining, etc. Number of different industries, 3
Number boats engaged in fisheries, about 3,000. Copper m
1,640,000 lbs.

Salaries of State Officers.

. *Governor* $3,000, Secretary of State $2,000, Treasurer
Auditor $1.500, Attorney General $2,000, Superintendent
lic Instruction $1,500, Adjutant General $600, Commis
Agriculture $1,200, State Librarian $750, Chief Justice



MAP OF
NORTH & SOUTH
CAROLINA

SOUTH CAROLINA.

One of the thirteen original states, "Palmetto state." Re
olutionary record, brilliant. English seized the territory, b
were thrashed at Cowpens and Eutah Springs and penned
in Charleston. First railroad in United States using Americ
locomotive, 1830. First state to secede, Nov., 1860. Sumt
bombarded April 12-13, 1861. Ordinance of secession repeal
Sept. 1865, and slavery abolished. Re-entered Union June 186
No. counties 34, miles railroad 2,129. State, congressional a
presidential elections, Tuesday after first Monday in No
State senators 35, representatives 124, sessions annual, mee
ing fourth Tuesday in Nov. Term of senators 4 years, repr
sentatives 2 years, No. electoral votes 9, No. congressmen
Insane, inmates of asylums, alms-houses and prisons, Unit
States army and duelists excluded from voting. No. colleg
9, school age 6-16, school system fair. Legal int. 7%, by co
tract, any rate. Population, census of 18 0—1,151,149. Nu
ber slaves in 1860, 402,406. Greatest length 280 miles, greate
width 210 miles, area 30,170 sq. miles, or 19,308,800 acres, coa
line 212 miles. Principal river Savannah, navigable 130 mile
Magnificent water power, undeveloped. Soil from medium
very rich. Forests extensive and valuable. Land cleared
uncleared, averages $7 per acre. Rice and cotton, best crop
All other cereals as well as vegetables, fruits, grasses and fib
crops grow well. Phosphate beds enormous, gold, mica, ma
bles of all colors, building stones found in large quantitie
Turpentine, tar, lumber and oysters largely produced. Stoc
thrives. Gold mines in Abbeville, Edgefield and Union cou
ties, first mint deposits, $3,500, in 1827. White and variegat
marbles found in Spartanburg and Laurens counties. Clima
—Temp. ranges 15 to 96 deg. F. Averages, summer 82 deg
winter 51. Average rainfall 48 inches, decreasing to the sout
Health good. Epidemics rare and confined to seaports. R
sort for consumptives. Changes slight and infrequent, fros
rare. Chief Cities, census of 1890—Charleston, 54,592, port
entry, seat of a Catholic bishop; Columbia, 14,508; Greenvill
8,340; Spartanburg, 5,532. United States customs districts
Beaufort, Charleston and Georgetown. Capital, Columbi
Principal Industries—Agriculture, mining, fishing, quarryin
lumbering, turpentine and tar making and phosphate diggin

SALARIES OF STATE OFFICERS.

Governor $3,500, Lieutenant Governor $1,000, Secretary
State $2,100, Treasurer $2,100, Comptroller General $2,100, A
torney General $2,100, Superintendent of Public Instructi
$2,100, Commissioner of Agriculture $2,100, Adjutant and I
spector General $1,500, Chief Justice $4,000, Associate Justic
$3,500, Clerk of Supreme Court $1,000, Senators and Repr
sentatives $5 per day, mileage 10 cents, District Judge $3,5
Collector of Internal Revenue $3,250.

VIRGINIA.

One of the thirteen original states. Called the "Old Dominion," and "The Mother of Presidents." First English settlement in America, 1607. Active in Revolution and subsequent steps toward founding the Union, Virginia won the title of "First of the States." British burnt Norfolk 1779, and Richmond 1781. Yorktown surrendered Oct., 1781, practically vanquishing England. State seceded May 7, 1861, and capital of Confederacy moved to Richmond. Scene of gigantic energies of the war. Bull Run, the Wilderness, Cold Harbor, Fredericksburg, Port Republic and many other famous battles were fought on Virginia soil. Lee surrendered at Appomattox April 9, 1865, ending the war. State returned to the Union Jan. 26, 1870. Number counties, 100. Sessions of legislature biennial, in odd-numbered years, meeting first Wednesday in December; holds 90 days. Term of senators 90 days, representatives 2 years. Number electoral votes 12, congressmen 10. Lunatics, idiots, convicts, duelists, United States army and non-taxpayers of capitation tax excluded from voting. Number colleges 7, schools 4,502, school age 5-21, school system fair. Legal interest 6 per cent, by contract 3 per cent, usury forfeits all over 6 per cent. Miles of railroad, 3,203. Population, census of 1890, 1,655,980. Slaves, 1860, 490,865. Greatest length east and west, 445 miles, greatest width, 190 miles, area 40,125 sq. miles, 25,680.000 acres. Coast line, 130 miles, tidal frontage, 1.556 miles. The state is rich in iron, gold, salt, coal, marble, slate, zinc, lead, stone, timber and other natural resources as yet little developed. Much good farming land is untilled. Cleared land averages $10 and woodland $6 to $7 per acre. The opportunities for homes and enterprise are inviting. All cereals, tobacco, peanuts (state ranks first in this crop and second in tobacco), fruits, grapes, and vegetables are extensively raised. Stock thrives. Climate varies, is genial and healthful, cool in mountains and warm in lowlands in summer. Winters are seldom severe. Winter averages 44, summer 78 deg. Rainfall, including snow, averages 44 in., being heaviest on the coast. Chief Cities—Richmond (capital), 63,600; pop. of Norfolk, 21,966; Petersburg, 21,656; Hampton Roads, one of best harbors on coast. Seven ports of entry. Industries—Half population engaged in agriculture, balance in quarrying, ship-building, lumbering, the trades, iron working, meat packing, tanning.

Salaries of State Officers.

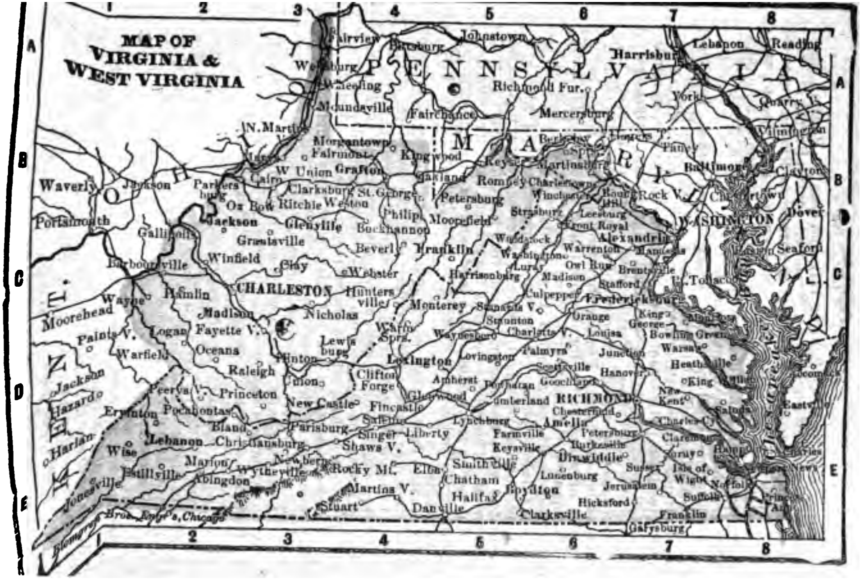
Governor $5,000, Lieutenant Governor $900, Secretary of State $2,000, Treasurer $2,000, Auditor $3,000, Secretary Auditor $2,000 Attorney General $2,500, Superintendent of Public Instruction $2,500, Adjutant General $600, Commissioner of Agriculture $1,500, Superintendent of Land Office $1,300, President of Supreme Court $3,250, four Judges of Supreme Court $3,000, two *District Judges* $3,500, Senators and Representatives $540 per *year.*

WEST VIRGINIA.

Originally part of Virginia. Called "Pan Handle State." History up to 1861 same as that of Virginia. Refused to secede Apr. 22, 1861. F. H. Pierrepont elected governor June 20, 1861. Admitted as state June 20, 1863, and Wheeling made the capital. Capital changed to Charleston 1870. Moved again to Wheeling 1875, and to Charleston again in 1884. Union soldiers furnished 32,068. State advanced rapidly in wealth. Number counties 54. Miles railroad 1,328. Governor and state officers elected quadriennially, and legislature every two years on second Tuesday in Oct.; number senators 26, representatives 65. Sessions biennial in odd-numbered years, holding 45 days. Terms of senators 4 years, representatives 2 years. Number electoral votes 6, congressmen 4, number voters 169,161, native white 123,569, colored 6,384. Insane, paupers and convicts not voting. Flourishing free school system, school age 6-21. Legal interest 6 per cent. by contract 6, usury forfeits excess of interest. Population, census of 1890, 762,794. Number of slaves in 1860, 18,371. Topography, area, Soil, Products, Etc.—Length N. and S. 241 miles, greatest width 158 miles, area 24,645 sq. miles, 15,772,800 acres. Surface mountainous with fertile valleys, the Alleghenys principal range. Some high peaks. Scenery fine and much visited by tourists. Western part hilly but gradually descends from 2,500 feet above the sea toward the Ohio river, where the elevation is 800 to 900 feet. Much of the state is virgin forest densely clothed with oak, walnut, poplar, ash and other timber trees. Mineral springs abound. The soil, where not mountainous, is excellent. Mineral wealth, including coal, oil, iron, salt is prodigal. Staple products include the minerals named, sheep, hogs, tobacco, wheat, corn, dairy products, fruit, wine, lumber. Petroleum extensively produced. The state ranks fifth in salt and coal, seventh in buckwheat, iron and steel. Cleared land averages $22.50. Climate moderate, average temperature, winter 30 deg., summer 70 deg. Elevation reduces heat which in the valleys averages 76 to 78 deg. Average rainfall 42 to 45 inches. Health is excellent. Chief Cities, Census of 1890—Wheeling, 35,052; Charleston, capital, 7,257; Parkersburg, 9,389; Martinsburg, 7,207. Chief Industries—Sixty per cent of laborers engaged in agriculture, balance in mining, iron making, lumbering, manufacturing, etc.

SALARIES OF STATE OFFICERS.

Governor $2,700, Secretary of State $1,000 and fees, Treasurer *$1,400, Auditor* $2,000 and fees, Superintendent of Free Schools *$1,500, Attorney* General $1,000, Presiding Judge of Supreme *Court* $2,250, Associate Judges $2,250, Senators and Repre-*entatives* $4 per day, mileage 10 cents; District Judge $3,500, wo Collectors of Internal Revenue $2,875.


MAP OF
VIRGINIA &
WEST VIRGINIA
PENNSYLVANIA
MARYLAND
OHIO
KENTUCKY
Johnstown
Harrisburg
Lebanon
Reading
York
Richmond Fur.
Mercersburg
Fairchance
Wheeling
Moundsville
Morgantown
Fairmont
Grafton
Kingwood
Oakland
Cumberland
Romney
Martinsburg
Charlestown
Winchester
Baltimore
Wilmington
Dover
Seaford
WASHINGTON
Alexandria
Waverly
Portsmouth
Jackson
Gallipolis
Parkersburg
Clarksburg
Weston
Glenville
Buckhannon
Philippi
Petersburg
Moorefield
Strasburg
Front Royal
Leesburg
Warrenton
Woodstock
Luray
Madison
Culpeper
Harrisonburg
Franklin
Beverly
Webster
Winfield
CHARLESTON
Hunters ville
Nicholas
Monterey
Staunton
Waynesboro
Charlottesville
Fredericksburg
Stafford
Orange
Louisa
Lexington
Lewisburg
Clifton Forge
Fayette V.
Madison
Logan
Hamlin
Wayne
Barboursville
Moorehead
Paintsville
Warfield
Oceana
Raleigh
Hinton
Union
New Castle
Fincastle
Salem
Princeton
Pocahontas
Bland
Parisburg
Christiansburg
Lebanon
Wise
Abingdon
Marion
Wytheville
Newbern
Rocky Mt.
Martins V.
Stuart
Liberty
Lynchburg
Amherst
Lovingston
Palmyra
Scottsville
Goochland
Hanover
RICHMOND
Chesterfield
Amelia
Petersburg
Farmville
Keysville
Dinwiddie
Lunenburg
Chatham
Halifax
Danville
Boydton
Clarksville
Hicksford
Jerusalem
Suffolk
Franklin
Garysburg
Norfolk
Princess Anne
Newport News
Hampton
Eastville
Isle of Wight
Surry
Sussex
Williamsburg
King William
Heathsville
Warsaw
Bowling Green
King George
Tappahannock
Saluda
New Kent
Charles City
Jonesville
Harlan
Hazard
Jackson
Blomgren Bros. Engr's, Chicago
1 2 3 4 5 6 7 8
A B C D E

ALASKA.

Discovered by Vitus Behring 1741, and became Russian territory by right of discovery. Purchased by the United States for $7,200,000, 1867, as a deed of gratitude to Russia for her course in civil war. Has paid 5 per cent on investment ever since, and promises to become the source of enormous mineral, fur, agricultural and timber wealth. Governor appointed by the president of the United States.

Population—Whites, 8,000; Indians, estimated, Innuits 18,000, Aleutian 2,200, Ninneh 4,000, Thlinket 7,000, Hyda 800.

Extreme length north and south 1,200 miles, width 800 miles, area (estimtd.) 514,700 sq. miles. Yukon, chief river, 80 miles wide at mouth, navigable 840 miles, length about 1,300 miles; coast line 5,000 miles. Fertile land. Good oats, barley and root crops are raised without difficulty. Rich grass land in the valley of Yukon. Timber abundant. Yellow cedar best, being of great value for boat-building. Berries plentiful. Fine quality of white marble is on Lynn Channel. Coal, amber and lignite on Aleutian Islands, the best coal being on Cook's Inlet. Gold, silver, copper, cinnabar and iron are found: sulphur abundant. Noted for fur-bearing animals, the chief of which are beaver, ermine, fox, marten, otter, squirrel and wolf. The main revenue is the fur seal, taking of which is regulated by law. The walrus is of value in furnishing ivory and oil. Whales, cod, herring and halibut and salmon are abundant.

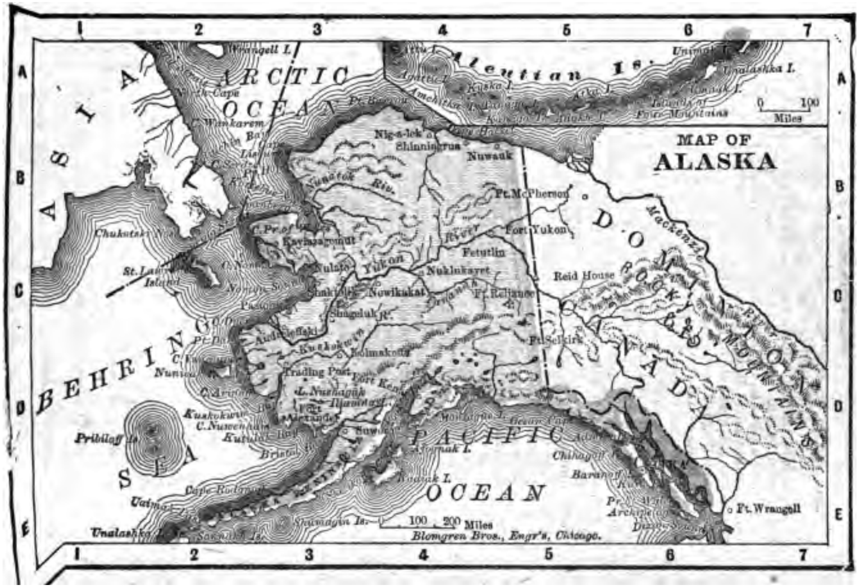
Climate—Pacific coast modified by Pacific Gulf Stream and long summer days. Temperature at Sitka averages, winter about that of Washington, D. C. Rainfall copious and foggy weather common on coasts and islands. Sitka one of the rainiest places in the world outside the tropics; annual precipitation 65 to 90 inches; rainy days 200 to 285 in year.

Chief Cities—Sitka, seat of Bishop of Greek church, and headquarters of governor, pop. 995, white 163, creole 219. Thlinket 613. Fort St. Nicholas, Cook's Inlet, Fort St. Michael and Norton's Sound are other main settlements. Harbors at Port Clarence, Michaelooski and Captain's Harbor.

Industries—Fishing, canning, trapping and mining.

SALARIES OF TERRITORIAL OFFICERS.

Governor	$3,000
District Judge	3,000
Clerk of District Court and ex-officio Secretary and Treasurer	2,500
District Attorney	2,500
Marshal and Surveyor General	2,500
Collector of Customs	$2,500 and fees
Three Deputy Collectors	1,500
One Deputy Collector	1,200
Two Inspectors, per day	3

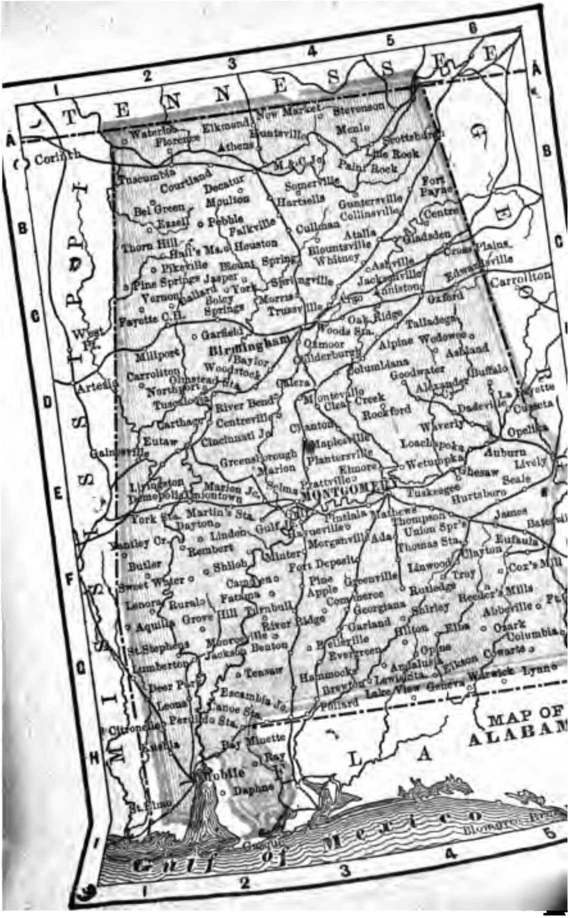

MAP OF
ALASKA
ASIA
ARCTIC OCEAN
BEHRING SEA
PACIFIC OCEAN
DOMINION OF CANADA
ROCKY MOUNTAINS
Aleutian Is.
Wrangell I.
North Cape
C. Wankarem
Chukotski
St. Lawrence Island
Pt. Barrow
Nig-a-lek
Shinniagrua
Nuwauk
Nunatok Riv.
Pt. McPherson
Fort Yukon
Yukon River
Fetutlin
Nuklukayet
Nulato
Kaviasagemut
Shakitlek
Nowikakat
Shageluk R.
Ft. Reliance
Reid House
Ft. Selkirk
Mackenzie River
Kuskokwim
Kolmakoff
Trading Post
Fort Kenai
L. Nushagak
Iliamna
Alexander
Nunivak
C. Avinoff
C. Newenham
Kuskokwim Bay
Kutulak Bay
Bristol Bay
Pribiloff Is.
Cape Rodney
Unimak I.
Unalashka I.
Shumagin Is.
Kodiak I.
Afognak I.
Chugach
Baranoff
Pt. Wrangell
Umnak I.
Islands of Four Mountains
Attu I.
Agattu I.
Kyska I.
Amchitka
Atka I.
0 100 Miles
100 200 Miles
Blomgren Bros., Engr's, Chicago.
1 2 3 4 5 6 7
A B C D E

ALABAMA.

Name Indian, means "We rest here." Mobile founded by French 1702. Admitted to Union Dec. 14, 1819. Seceded Jan. 11, 1861. Montgomery made capital of Confederacy Feb. 4, 1861. Subsequently removed to Richmond, Va. State re-entered Union July 14. Number counties 66, miles of railroad 3,146. State elections biennial first Monday in Aug., number senators 33, representatives 100, sessions of legislature biennial in even-numbered years, meetings Tuesday after second Monday in Nov., and holding 50 days, term of senators 4 years, of representatives 2 years. Number of electoral votes 10, congressmen 7. Indians, idiots, convicts of crime excluded from voting. Number colleges 4, school age 7-21, schools good. Legal interest 8 per cent, usury forfeits entire interest. .Population, census of 1890.—1,513,017. Number of slaves in 1860, 435,080. Length N. and S. 330 miles, width averages 154 miles, area 50,722 sq. miles, 32,985,600 acres. Surface at N. E. rugged, extending into Allegheny mountains, gradually descends, forming rolling prairies at center of state and flat low stretches at the south. Sea coast 68 miles. Mobile bay best harbor on the gulf, 1,600 miles of navigable waterways. Has fair soil and is enormously rich in coal, iron, lime and sandstone, timber and various minerals. Middle section soil fertile and varied. Coast region sandy, but by proper cultivation prolific, Vegetable farming near Mobile very successful. Cotton, mules, iron, coal, sugar, rice, tobacco, hay, oats, corn, staple products. Fruits are a good crop. Much forest remains. Cleared land averages $7, and woodland $4 per acre. State ranks fourth in cotton, fifth in mules and molasses, sixth in iron ore and sugar, seventh in rice. Climate.—Temperature mild, cold at north, warm at south, average winter 47 deg., summer 81 deg., July hottest month, range of themometer 20 to 95 deg., sometimes for a day reaching 102 deg. Rainfall 50 inches. Snow or ice very rare. Trees bloom in Feb. Chief Cities, census of 1890.—Mobile, 31,822; Birmingham, 26,241; Montgomery (the capital), 21,790; Selma, 7,626; Huntsville, 4,635. Leading Industries.—Agriculture and kindred pursuits, mining, iron making, lumbering, etc. Number industries 2,070.

Salaries of State Officers.

Governor	$3,000
Secretary of State	1,800
Treasurer	2,150
Auditor	1,800
Attorney General	1,500
Superintendent of Public Instruction	2,250
Librarian	1,500
Three Railroad Commissioners	$2,000 to 3,500
Chief Justice	3,000
Two Associate Justices	3,000


MAP OF
ALABAM
TENNESSEE
MISSISSIPPI
G
FLA
Gulf of Mexico
Corinth
Waterloo
Florence
Elkmond
Athens
New Market
Huntsville
Stevenson
Menlo
Scottsboro
Little Rock
M. & C. Jc.
Paint Rock
Tuscumbia
Courtland
Decatur
Somerville
Fort Payne
Bel Green
Moulton
Hartsells
Guntersville
Collinsville
Centre
Russell
Pebble
Falkville
Cullman
Attalla
Gadsden
Thorn Hill
Hall's Ms.
Houston
Blountsville
Whitney
Cross Plains
Pikeville
Blount Springs
Ashville
Jacksonville
Edwardsville
Carrollton
Pine Springs
Jasper
Springville
Anniston
Vernon
Ballard
York
Morris
Argo
Oxford
Boley Springs
Trussville
Oak Ridge
Fayette C.H.
Woods Sta.
Talladega
West Pt.
Garfield
Birmingham
Oxmoor
Alpine
Wedowee
Millport
Baylor
Childersburg
Ashland
Carrollton
Woodstock
Columbiana
Goodwater
Buffalo
Artesia
Northport
Olmstead Sta.
Galera
Alexander
La Fayette
Tuscaloosa
River Bend
Montevallo
Clear Creek
Rockford
Dadeville
Cusseta
Carthage
Centreville
Waverly
Opelika
Eutaw
Cincinnati Jc.
Clanton
Maplesville
Loachapoka
Auburn
Gainesville
Greensborough
Plantersville
Wetumpka
Lively
Marion
Elmore
Chesaw
Livingston
Marion Jc.
Selma
Prattville
Seale
Demopolis
Uniontown
MONTGOMERY
Tuskegee
Hurtsboro
York Sta.
Martin's Sta.
Pintlala
Mathews
Dayton
Gull Jc.
Hayneville
Thompson
Union Spr's
James
Bates
Hanley Cr.
Linden
Morganville
Ada
Thomas Sta.
Eufaula
Rembert
Minter
Fort Deposit
Linwood
Clayton
Butler
Shiloh
Pine Apple
Greenville
Troy
Cox's Mill
Sweet Water
Camden
Rutledge
Reeder's Mills
Lenora
Rural
Fatama
Turnbull
Commerce
Georgiana
Shirley
Abbeville
Aquilla
Grove Hill
River Ridge
Garland
Elba
Ozark
Hilton
Columbia
St. Stephens
Mooresville
Belleville
Jackson
Benton
Evergreen
Opine
Cowarts
Lumberton
Andalusia
Tensaw
Hammocks
Lewis Sta.
Elkston
Warwick
Lyons
Deer Park
Brewton
Escambia Jc.
Lake View
Geneva
Leona
Canoe Sta.
Pollard
Perdido Sta.
Citronelle
Bay Minette
Kushla
Ray
Mobile
Daphne
St. Elmo
Blondre Bay
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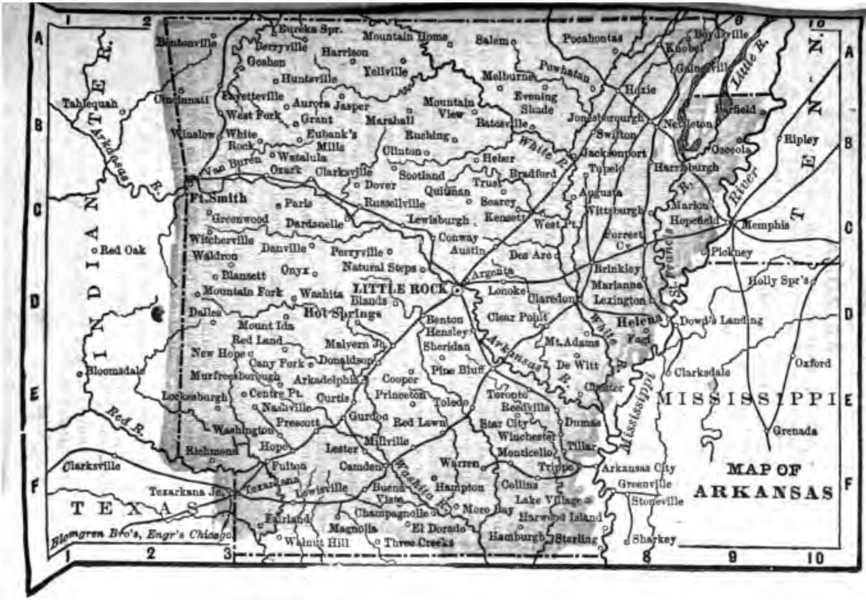
ARKANSAS.

"Bear State." Settled 1685. Arkansas territory organized 1819. Admitted as a state June 15, 1836. Slavery acknowledged. Seceded May 6, 1861. Considerable fighting during the war, but no great battles. Re-entered Union 1868. Number counties 75. Miles railroad, 2,141. State elections biennial, in even-numbered years first Monday in Sept.; number senators, 31, representatives 94, sessions of legislature biennial, in odd-numbered years, meeting second Monday in Jan., holding 60 days, term of senators 4 years, representatives 2 years. Number of electoral votes 7, congressmen 5. Idiots, Indians, convicts not voting. Number colleges 5, school system progressive, school age 6-21. Legal interest rate 6 per cent, by contract 10 per cent, usury forfeits principal and interest. Population, census of 1890—1,128,179. Length N. and S. 240 miles, average breadth 212 miles, area 53,845 sq. miles, 44,460,800 acres. The scenery varied and charming. Hot Springs (temp. 140 deg.) great natural wonder and famous for medicinal properties. Soil varies, but greater portion exceptionally rich and suited to all crops, especially fruits, berries and gardening. State especially favorable to agriculture. Magnificently timbered. Pine, oak, cypress, cedar, hickory, waln., linn. locust chief growth. Cleared land averages $10, and woodland $3 per acre. Coal exists on the Ash river, iron in the Ozarks, salt near Ouachita. Oilstone near Hot Springs, kaolin in Pulaski county. Staple products, corn, wheat, cotton, tobacco, oats, sweet potatoes, mules, tar, turpentine, lumber, etc. Climate—Genial. Temp. ranges 15 deg. to 95 deg., on rare occasions going to 100 deg. Averages winter, 45 deg.; summer 80 deg. Rainfall 44 inches, heaviest in S. E., lightest in N. W. Health unsurpassed, especially in N. W. Chief Cities, census of 1890—Little Rock, the capital, 26,500; Helena, 5,185; Texarkana, 3,486. Industries—2,100 in number. Chiefly agricultural.

SALARIES OF STATE OFFICERS.

Governor	$3,500
Secretary of State	1,800
Treasurer	2,250
Auditor	2,250
Attorney General	1,500
Superintendent of Public Inst	1,600
Land Commissioner	1,800
Chief Justice	3,000
Two associate Justices	3,000
Senators and Representatives	$6 a day.
Two District Judges	3,500
District Attorney	$200 and fees.
Two Assistant District Attorneys	$1,200, 1,000


MAP OF
ARKANSAS
Blomgren Bro's, Engr's Chicago
INDIAN TER.
TENN.
MISSISSIPPI
TEXAS
Arkansas R.
Red R.
White R.
Little R.
St. Francis R.
Mississippi River
Washita R.
LITTLE ROCK
Ft. Smith
Hot Springs
Helena
Memphis
Bentonville
Eureka Spr.
Berryville
Goshen
Huntsville
Harrison
Yellville
Mountain Home
Salem
Pocahontas
Powhatan
Melbourne
Evening Shade
Hoxie
Boydsville
Knobel
Gainesville
Barfield
Tahlequah
Cincinnati
Fayetteville
West Fork
Aurora
Jasper
Grant
Marshall
Mountain View
Batesville
Jonesborough
Nettleton
Osceola
Ripley
Winslow
White Rock
Eubank's Mills
Watalula
Rushing
Clinton
Heber
Swifton
Jacksonport
Tupelo
Harrisburgh
Van Buren
Ozark
Clarksville
Dover
Scotland
Trust
Bradford
Quitman
Searcy
Augusta
Paris
Russellville
Kensett
West Pt.
Wittsburgh
Marion
Hopefield
Greenwood
Dardanelle
Lewisburgh
Conway
Austin
Des Arc
Forrest Cy.
Pickney
Witcherville
Danville
Perryville
Waldron
Natural Steps
Argenta
Brinkley
Marianna
Lexington
Holly Spr's
Red Oak
Blansett
Onyx
Mountain Fork
Washita
Blands
Lonoke
Claredon
Dallas
Mount Ida
Benton
Hensley
Sheridan
Clear Point
Mt. Adams
Fagi
Dowd's Landing
Red Land
Malvern Jn.
New Hope
Cany Fork
Donaldson
Bloomsdale
Murfreesborough
Arkadelphia
Cooper
Pine Bluff
De Witt
Clarksdale
Oxford
Lockesburgh
Centre Pt.
Curtis
Princeton
Toledo
Toronto
Chester
Nashville
Reedville
Washington
Prescott
Gurdon
Red Lawn
Star City
Dumas
Grenada
Winchester
Millville
Richmond
Hope
Lester
Monticello
Tillar
Clarksville
Fulton
Camden
Warren
Tripps
Arkansas City
Greenville
Texarkana Jc.
Texarkana
Lewisville
Buena Vista
Hampton
Collins
Lake Village
Stoneville
Champagnolle
Moro Bay
Harwood Island
Fairland
Magnolia
El Dorado
Walnut Hill
Three Creeks
Hamburgh
Sterling
Sharkey
A
B
C
D
E
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1
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10

ARIZONA.

Explored 1526. Mineral wealth found, no important settlements effected because of hostile natives. Organized as territory, Feb. 24, 1863. Number counties 11. Miles railroad 1,095. All elections Tuesday after first Monday in Nov; number senators, 12; representatives, 24; sessions of legislature biennial, in even-numbered years, meeting first Monday in Jan., holds 60 days; terms of senators and representatives, 2 years each. School age, 6-21 years. Legal interest rate, 10 per cent., by contract, any rate; no penalty for usury. School endowment in lands reserved very large.

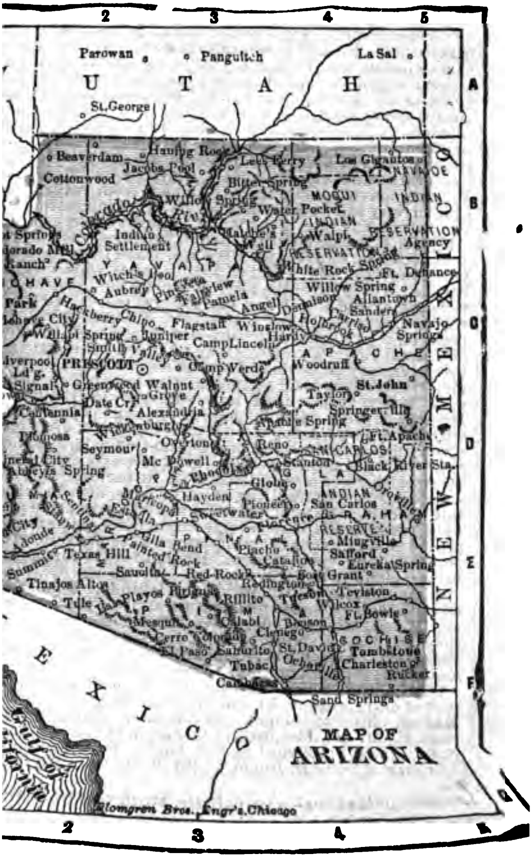
Population, census 1890, —.... Extreme length north and south, 378 miles, width, 339 miles, area, 113,929 sq. miles, 72,914,560 acres. Volcanic peaks reach an altitude of 10,500 feet. Southern portion a plain, dipping occasionally below sea level, and rising only to a very moderate elevation (200 to 600 feet usually), mountains numerous, highest point San Francisco, 11,056 feet. Colorado river navigable 620 miles. Flows between perpendicular walls cut in solid rock in places 7,000 feet high. Agriculture possible only in the valleys or where irrigation is practicable. Soil in valleys and bottoms very rich and prolific. Wheat, barley, potatoes, hay, corn, onions are staple field crops, corn follows wheat or barley, giving two crops yearly. Oranges and all semi-tropical fruits do well where water is obtainable. Cattle raising extremely profitable. Desert tracts of considerable area are found. Timber grows on the mountains, foot-hills and along the streams. The varieties include pine and cedar on mountains, cotton-wood, walnut and cherry on streams. Size of trees fair and quantity large Abundant mineral wealth exists, which can be developed wit profit, owing to completion of railways. Nearly all mountai ranges contain gold, silver, copper and lead. Superior quali of lime found near Preston and Tucson, beds of gypsum San Pedro valley, remarkable deposits of pure transpare salt near Callville. Territory ranks second in production silver.

Climate exceptionally healthful, and generally mild, exc in mountains, temperature averages 38 deg. winter, 73 s mer, much warmer at south, the thermometer reaching o sionally 115, and rarely falling below 35 deg. in winter. central portion heat seldom exceeds 88 deg. to 90 deg., s *in mountains*, but melts soon. Rainfall on Gila 6 inche *foot-hills* 28 inches. Heaviest in July and August.

Chief Cities.—Census of 1890: Tucson, pop. 5,095; Pre *the capital*, pop. 3,000.

Leading Industries.—Mining, grazing, agricultu *bering*, smelting, etc.

(Salaries of State Officers page 439.)



MAP OF ARIZONA

Blomgren Bros. Engr's. Chicago

CALIFORNIA.

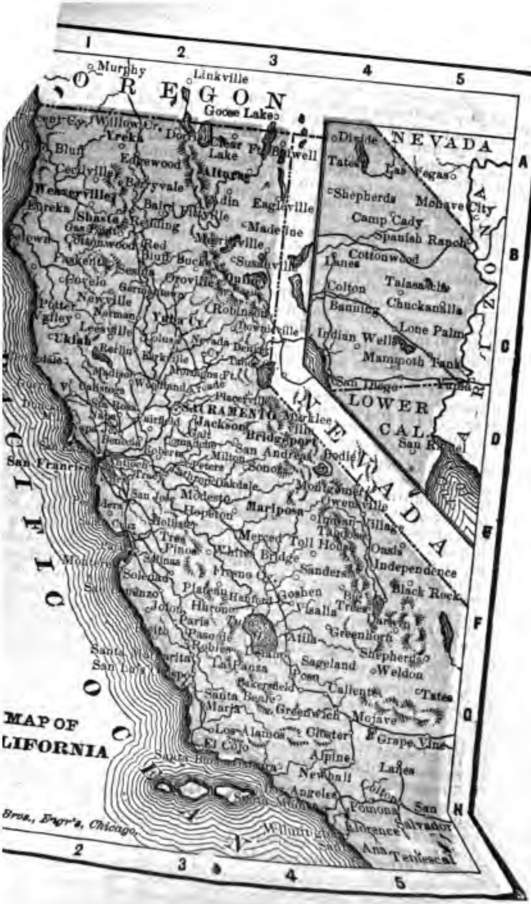
"Golden State." First settled at San Diego 1768. Gold discovered 1848. Rush of immigration set in 1849. State constitution, without the preliminary of a territorial organization, framed Sept. 1849. Admitted as a state Sept. 9, 1850. Number counties 53. Miles railroad 4,202. Governor and state officers elected quadrennially and legislature every two years; number senators 40, representatives 80, sessions of legislature biennial in odd-numbered years, meeting 1st Monday after Jan. 1, holds 60 days; term of senators 4, representatives 2 years. Number electoral votes 8, congressmen 6, white voters 262,583. Idiots, Indians, convicts and Chinese excluded from voting. School system very fair; school age 5–17. Legal interest 7 per cent, by contract any rate. Population, according to census of 1890, 1,208,120. Extreme length N. and S. 725 miles, width 330 miles, area 155,980 sq. miles, 99,827,200 acres. Coast line over 800 miles. San Francisco Bay, 40 miles long 9 miles wide, magnificent harbor. Yosemite in the Sierras, one of the greatest natural wonders of the world and the greatest marvel of the state, where scenery is always grand. Mt. Whitney 15,000, highest peak. Very rich agriculturally and in minerals. Soil warm, genial and rich. Two crops may be raised in season Irrigation necessary in parts and almost always desirable. Wheat most valuable crop, all cereals, root crops and grasses do well, corn, barley, grapes, fruit, nuts, silk, hops and oats staples. Mineral deposits include gold, silver, iron, copper, mercury, coal, stones, salt, soda, etc. Ranks high as a fruit-growing state, fruits of temperate climates, sub-tropical fruits and nuts, grapes N. to 41 deg., olives, etc., grow to great perfection. Fine sheep raising country. Ranks first in barley, grape culture, sheep, gold and quicksilver, third in hops, fifth in wheat and salt. Noble forests of redwood and other valuable growths. Land runs from $1.25 to several hundred dollars per acre. Improved land averages $30, unimproved $7.50 per acre. It is the paradise of the small farmer. Plenty of room for men with a little something to begin on.

Climate varies with elevation and latitude. Mild and pleasant on coast. Average temperature at San Francisco in summer 62 deg., winter 50 deg. Warmer in interior, reaching at times 100 deg. Rainfall variable, from 7 to 50 inches at Sa Francisco. Average at S. 10 inches. Melting snow fro mountains replaces rainfall. Frosts rare.

Chief Cities, census of 1890—San Francisco, pop. 297,99 port of entry, regular line of steamers to Australia, Panam Mexico, China and Japan; Sacramento, capital, 26,272; Or *land, 48,590*; San Jose, 18,027; Stockton, 14,376; Los Angel *50,394*; *U. S.* navy yard at San Pueblo Bay; Fresno, 10,7 *Napa City*, 4,387: San Diego, 16,153; Santa Rosa, 5,216; Va *5,004*.

Leading Industries—Agriculture, stock raising, fruit *mining*, lumbering, etc.

(Salaries of State Officers page 439.)


MAP OF
LIFORNIA
Bros., Engr's, Chicago.
1
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A
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D
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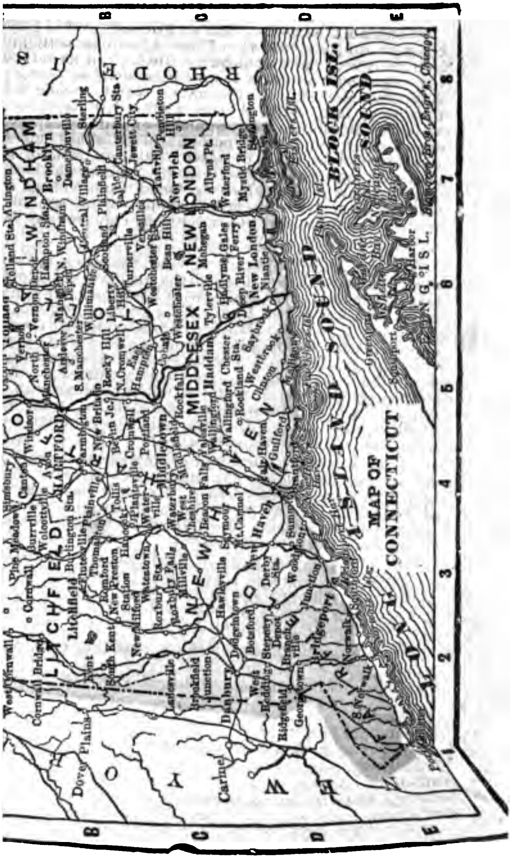
OREGON
NEVADA
ARIZONA
LOWER CAL.
PACIFIC OCEAN
Murphy
Linkville
Goose Lake
Yreka
Clear Lake
Edgewood
Alturas
Bidwell
Cecilville
Berryvale
Weaverville
Eureka
Shasta
Adin
Eagleville
Madeline
Cottonwood
Red Bluff
Susanville
Oroville
Quincy
Covelo
Newville
Robinson
Potter Valley
Norman
Yuba Cy.
Ukiah
Colusa
Nevada Cy.
Downieville
Berlin
Calistoga
Woodland
Placerville
SACRAMENTO
Jackson
Markleeville
Bridgeport
Galt
Bodie
San Andreas
Milton
Sonora
San Francisco
Antioch
Peters
Oakdale
San Jose
Modesto
Mariposa
Hopeton
Merced
Toll House
Tres Pinos
White's Bridge
Salinas
Fresno Cy.
Sanders
Oasis
Independence
Soledad
Plateau
Hanford
Goshen
Visalia
Jolon
Huron
Paris
Paso de Robles
La Panza
Santa Margarita
San Luis Obispo
Sageland
Weldon
Bakersfield
Caliente
Tates
Santa Maria
Greenwich
Mojave
Los Alamos
El Cojo
Santa Barbara
Alpine
Newhall
Los Angeles
Santa Monica
Wilmington
Pomona
Colton
Florence
San Salvador
Santa Ana
Temescal
Divide
Tates
Las Vegas
Shepherds
Mohave City
Camp Cady
Spanish Ranch
Cottonwood
Lanes
Colton
Talasawells
Banning
Chuckanalla
Lone Palm
Indian Wells
Mammoth Tank
San Diego
Yuma
San Rafael
Black Rock
Greenhorn
Shepherds
Lanes
Grape Vine

CONNECTICUT.

"Wooden Nutmeg State." One of the original 13 states explored by the Dutch settlers of Manhattan Island, 1615, by whom settlement was made, 1633, at Hartford. The state furnished a very large quota of men to the Revolutionary armies. Yale College founded 1701. Union soldiers furnished 55,864. Number counties 8. Miles railroad 1,011. State elections yearly on same date as presidential election. Elects 24 senators, 249 representatives, 4 congressmen and 6 presidential electors. State senators hold 2 and representatives 1 year. Legislature meets yearly on Wednesday after first Monday in Jan. Convicts and persons unable to read not permitted to vote. School system superior, includes 3 colleges with 160,000 books in libraries. School age 4–16 years. Legal interest 6 per cent. No penalty for usury. Population, according to census of 1890, 746,258. Area 4,845 sq. miles, average length 86 miles, average breadth 55 miles; seacoast 110 miles. Surface less rugged than the other New England states. Mountain range terminates in this state in a series of hills. The coast is indented by numerous bays and harbors. Soil, except in valley, light and stony. Corn, oats, hay, wheat, tobacco and vegetables are the staple crops. Cleared land averages $40 and wood land $30 per acre. No valuable timber remains. Stone extensively quarried. Valuable iron mines exist. Climate moderate and healthy; average temperature, summer 72 deg., winter 28 deg. Occasionally the thermometer sinks below zero, considerable snow falls, summers warm, rain fall, including snow, about 47 inches. Chief Industries—Manufacture of hardware, clocks, silks, cotton, rubber, carpets, woolens, arms, sewing machines and attachments, dairying, quarrying, agriculture, etc.; total number of industries 4,488. Prir cipal Cities, census of 1890—Hartford, capital and noted f banking and insurance business, pop. 53,182; New Have "City of Elms," seat of Yale college, 85,981; Bridgeport, not for manufacture of fire arms and sewing machines, 48,8 Waterbury, important manufacturing city, 28,591; Danbu 19,385; Greenwich, 10,120; Manchester, 8,217; Meriden, 21,2 Middletown, 9,012; New Britain, 19,010; New London, 13, Norwich, 16,192; Stamford, 15,685; Vernon, 8,807. Fairfi Middletown, New Haven, New London and Stonington ports of entry. ☐

SALARIES OF STATE OFFICERS.

Governor ....
Lieutenant Governor ....
Secretary of State ....
Treasurer ....
Comptroller ....
Secretary State Board of Education ....
Adjutant General ....
Insurance Commissioner ....
Three Railroad Commissioners ....
Chief Justice ....
Four Associate Justices ....



MAP OF CONNECTICUT
LITCHFIELD
HARTFORD
TOLLAND
WINDHAM
NEW HAVEN
MIDDLESEX
NEW LONDON
FAIRFIELD
NEW YORK
RHODE ISLAND
LONG ISLAND SOUND
BLOCK ISL. SOUND
LONG ISL.
Litchfield
Hartford
Middletown
New Haven
New London
Norwich
Bridgeport
Danbury
Norwalk
Waterbury
Meriden
Willimantic
Stonington
Greenwich
Guilford
Saybrook
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COLORADO.

"Centennial State." John C. Fremont, "The Pathfin
crossed Rockies 1842-44. First American settlement
Denver, 1859, Mining begun. Organized as territory
1861. Indian troubles 1863-4. Union soldiers furnished
Admitted as a state Aug. 1. 1876. Number counties 39.
railroad in 1870. Mileage 1890, 4,097. All elections Tue
after first Monday in Nov., number senators 26, representa
49, sessions biennial in odd-numbered years, meeting
Monday in Jan., limit of session 40 days, term of senat
years, of representatives 2 years. Number electoral vot
congressmen 1. Convicts excluded from voting. Nu
colleges 3, school system fair endowment, school age
years. Legal interest 10 per cent., by contract any rate.

POPULATION—census of 1890—412,198.

Length E. and W. 380 miles, width 280 miles, area 103,8
miles, 66,460,800 acres, three-fifths unsurveyed. Rocky m
tains traverse state N. and S. with 3 ranges having many
more than 13,000 feet high. Fine grazing grounds. Sc
grand beyond words. Much rich soil along streams and
ever irrigation is possible. Cereals do very well. Corn, w
oats, hay, staple crops. Cattle, sheep and hog raising saf
profitable. Dairying pays, as does gardening. Timbe
sources moderate. Mountains fairly clothed with pine
other trees. Mineral wealth inexhaustible. State rank
in silver, fourth in gold. Iron, soda, coal, copper, lead,
mica, etc., exist in large deposits.

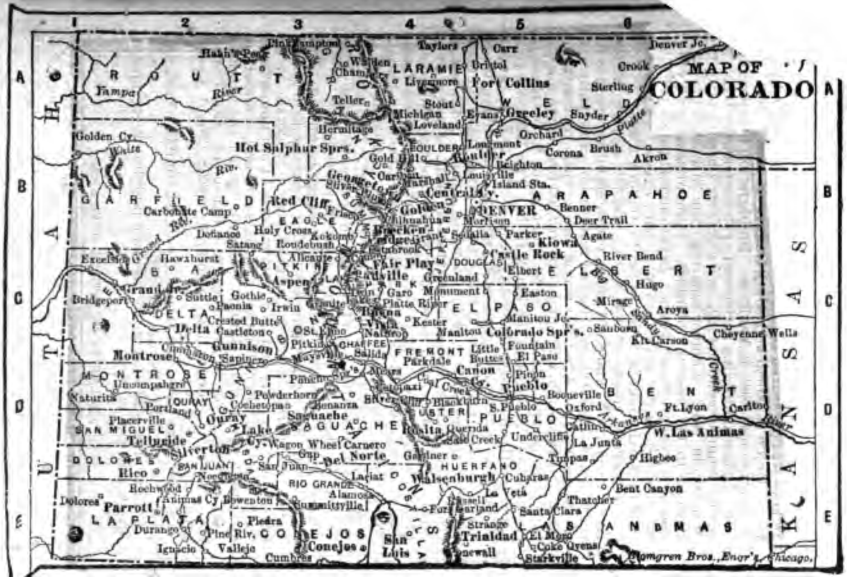
CLIMATE.—Dry and range of temperature compar
small. Winters mild, summers cool. Average temp
winter 31 deg., summer 73 deg. Rainfall, mainly in Ma
and July, average 18 inches. On mountains winters
accompanied by heavy snowfall; violent winds commo
unknown. Health unsurpassed.

CHIEF CITIES.—Census of 1890—Denver, capital
tropolis, and contains assay office; pop. 106,670; L
11,159; Colorado Springs, 11,200. State University at
Agricultural College at Fort Collins; School of
Golden City. Pueblo, pop. 28,128.

LEADING INDUSTRIES.—Mining, smelting ores, a
grazing, etc.

Salaries of State Officers.

Governor ....
Lieutenant Governor..... ....
Secretary of State............... .. ..
Treasurer....... ....
Auditor.... ....
Attorney General............... ....
Chief Justice ....



MAP OF COLORADO

NORTH AND SOUTH DAKOTA.

Named for Dakota Indians. First setteled at Pembina 181
Dakota was organized as territory March, 1861, and admitte
to the Union as North and South Dakota on Nov. 3, 1889. Fir
legislature met 1862, at Yankton. Immigration became activ
1866. Railroad building active and systems mammoth in thei
scale. Number counties 129. All elections Tuesday after fir
Monday in Nov. Number senators from 30 to 50, representa
tives 60 to 140, sessions biennial. Term of senators 4 year
and of representatives 2 years. Legal interest rate 7 per cen
by contract 12 per cent, usury forfeits excess. Miles ra
road in North Dakota, 2,056; in South Dakota, 2,488.

Population, census of 1890, N. Dak., 182,719; S. Dak., 328,80
Average length N. and S. 451 miles, width 348 miles, area 150,9
sq. miles, 95,431,680 acres. Indian reservation principally we
of Missouri river, 42,000,000 acres, one-seventh good farmin
land. Surface high, level plain, 950 to 2,600 feet above the se
traversed by ranges of lofty hills, which at the S. W. reach a
elevation of 7,000 feet in the Black Hills. The Missouri riv
traverses the territory diagonally from N. W. to S. E., and
navigable. Lakes are numerous, especially in the north an
east. Devil's Lake is semi-salt. Other large lakes. Soil
very rich and peculiarly suited to wheat, which is the stap
crop. Corn, oats, grasses and potatoes do well. Fruit is not
good crop. Cattle, and especially sheep-raising, favored an
growing industries. Timber scarce, except along the strea
and some of the hills. Gold and silver extensively mine
Black Hills very rich in precious minerals. Ranks fourth
gold output. Good coal west of the Missouri. Not much d
veloped as yet. Deposits of tin said to be of great value exis
Price of land $1.25 to $20 per acre (later improved).

Climate.—Temperature ranges from 32 deg. below zero to 1
deg. above. Averages, winter 4 to 20 deg., summer 65 to 75 de
Winters at north severe, with heavy snow. Moderate at t
south. Air clear, dry and free from malaria. Cold not so pen
trating as in moister climates. Springs late and summers
medium length. Rainfall 19 in., chiefly in spring and summe

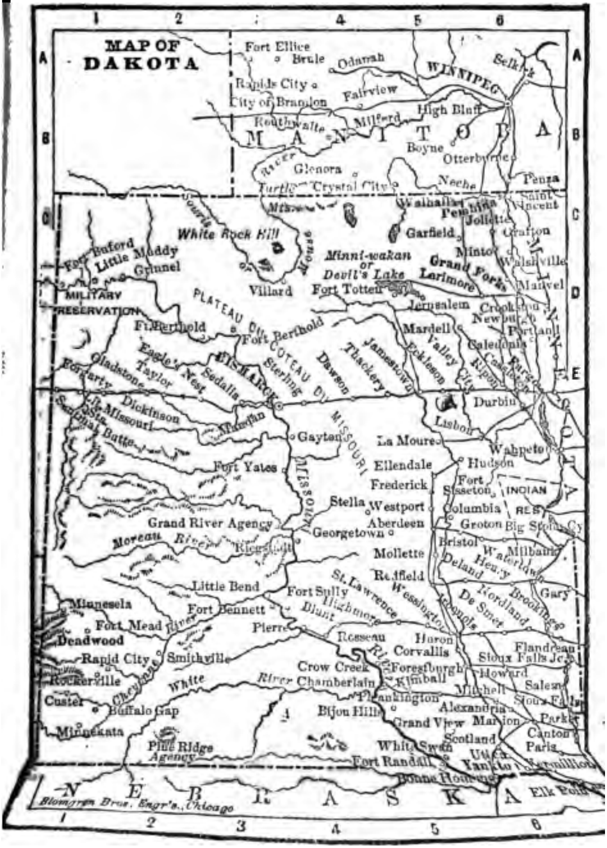
Chief Cities of North Dakota.—Census of 1890—Farg
northern metropolis, 5,613; Bismarck, 2,260; Grand Fork
4,963.

Chief Cities of South Dakota.—Census of 1890—Yankto
4,700; Pierre, 3,200: Deadwood, 2,366.

Industries.—Almost entire laboring population engaged
agriculture and mining.

SALARIES OF STATE OFFICERS.

Governor $3.000, Lieutenant Governor $1,000, Secretary
State $2,000, Treasurer $2,000, Auditor $2,000, Superintend
of Public Instruction $2,000, Chief Justice $3,000. Senator
Represenatives $5 a day, mileage 20 cents.


MAP OF DAKOTA
MANITOBA
NEBRASKA
Fort Ellice
Brule
Odanah
Rapids City
City of Brandon
Fairview
WINNIPEG
Selkirk
High Bluff
Milford
Routhwaite
Boyne
Otterburne
Glenora
Turtle
Crystal City
Neche
Penza
Saint Vincent
Walhalla
Pembina
Joliette
Grafton
Garfield
Minto
Walshville
White Rock Hill
Souris
Mouse
Minni-wakan or Devil's Lake
Grand Forks
Larimore
Manvel
Fort Buford
Little Muddy
Grinnel
MILITARY RESERVATION
Villard
Fort Totten
Jerusalem
Crookston
Newburgh
Portland
PLATEAU DU COTEAU DU MISSOURI
Ft. Berthold
Fort Berthold
Mardell
Valley City
Caledonia
Casselton
Fargo
Ripon
Eagle's Nest
Taylor
Sedalia
BISMARCK
Sterling
Dawson
Thackery
Jamestown
Eckleson
Gladstone
Fogarty
Dickinson
Lt. Missouri
Sta.
Sentinal Butte
Mandan
Durbin
Lisbon
Gaytan
La Moure
Wahpeton
Fort Yates
Ellendale
Hudson
Frederick
Fort Sisseton
INDIAN RES.
Stella
Westport
Columbia
Aberdeen
Groton
Big Stone Cy
Grand River Agency
Georgetown
Moreau River
Riegstadt
Bristol
Mollette
Milbank
Waterloo
Deland
Henry
Redfield
Little Bend
Fort Sully
St. Lawrence
Wessington
Nordland
Gary
Highmore
Blunt
Iroquois
De Smet
Brookings
Minnesela
Fort Bennett
Fort Mead
Pierre
Rosseau
Huron
Deadwood
River
Corvallis
Flandreau
Rapid City
Smithville
Sioux Falls Jc.
Crow Creek
Forestburgh
Howard
Rockerville
Cheyenne
White
River Chamberlain
Kimball
Mitchell
Salem
Custer
Buffalo Gap
Plankington
Alexandria
Sioux Falls
Bijou Hills
Grand View
Marion
Parker
Minnekata
Scotland
Canton
Pine Ridge Agency
White Swan
Paris
Fort Randall
Utica
Yankton
Vermillion
Bonne Homme
Elk Point
Blomgren Bros. Engr's., Chicago
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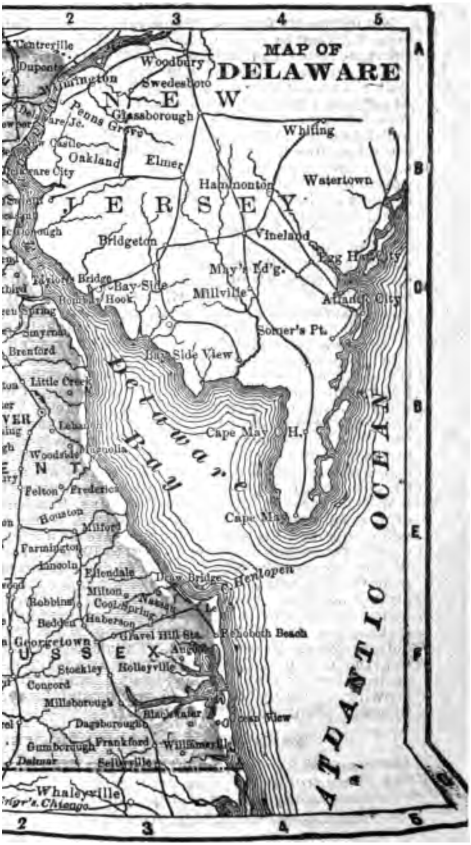
DELAWARE.

One of the thirteen original states. "The Diamond State." Settled by Swedes 1658, who bought from Indians. Took vigorous part in the revolution. Was a slave state. Slaves 1860, 2,000. Union soldiers furnished 12,284, the biggest percentage of any state. Contains three counties. Miles of railroad 315. All elections Tuesday after first Monday in November, number senators 9, representatives 21, legislature meets in odd-numbered years first Tuesday in January, holds 21 days, term of senators 4 years, of representatives 2 years, number electoral votes 3, number congressmen 1, idiots, insane, paupers and criminals excluded from voting. Colleges at Newark and Wilmington, school age 6–21, schools fair, legal interest rate 6, usury forfeits the principal. Population census of 1890, 168,493. Length north and south nearly 100 miles, width 10 miles at north, 36 at south. Area 1,950 square miles, or 1,248,000 acres. Available area large. Northern portion rolling, but free from large hills. Scenery beautiful. Southern portion level and sandy, with frequent cypress marshes. Coast low and swampy with lagoons separated from sea by sand-beaches. Streams flow into Chesapeake and Delaware bays and are small. Tide reaches to Wilmington. The soil is good and the state of cultivation superior. Cleared land averages $45 per acre, and wood-land $40. Staple crops, corn, wheat, peaches, berries, garden vegetables, sweet potatoes. Iron is found, but is no longer worked, Climate mild. Tempered by sea breezes. Average temperature, winter, 32 deg. to 38 deg.; summer, 72 deg. to 78 deg. Rainfall 48 to 50 inches. At north health excellent. Some malaria on the lowlands bordering the swamps at the south. CHIEF CITIES, census of 1890.—Wilmington, pop. 61,437. Dover, capital. Newcastle 6,000. Breakwater protecting Delaware Bay at Cape Henlopen, greatest work of its kind in America, cost the United States $2,127,400, and was over 40 years in course of construction. INDUSTRIES.—Agriculture and kindred pursuits, manufacture of flour, lumber, cotton, iron, steel, leather, etc., shipbuilding, fishing, canning and preserving. Total number different industries, 750.

SALARIES OF STATE OFFICERS.

Governor	$2,000
Secretary of State	1,000
Treasurer	1,450
Auditor	700
Adjutant General	200
Attorney General	2,000
Superintendent of Public Instruction	1,500
State Librarian	450
Chief Justice	2,500
Chancellor	2,500
Three Associate Justices	2,900
Senators and Representatives	$3 per day and mileage


MAP OF
DELAWARE
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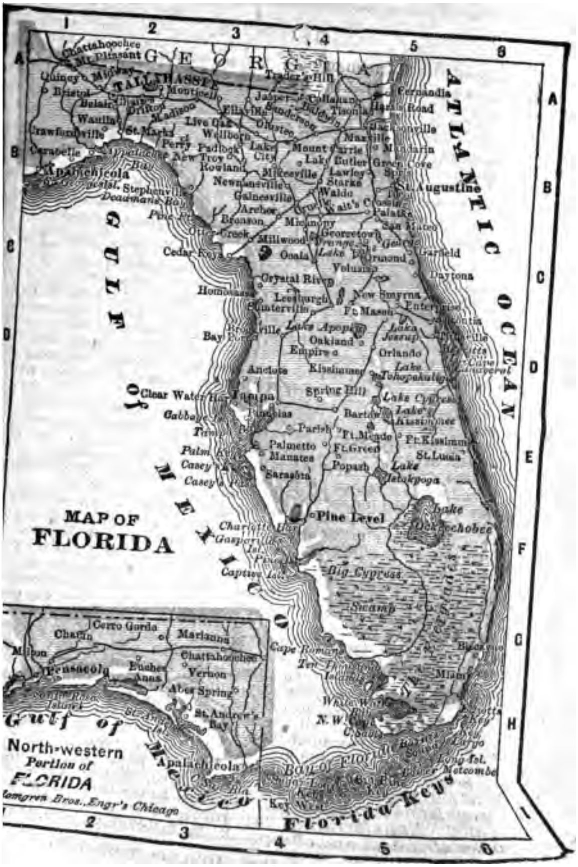
3
4
5
A
B
C
D
E
F
NEW JERSEY
Centreville
Dupont
Wilmington
Woodbury
Swedesboro
Glassborough
Delaware Jc.
Penns Grove
New Castle
Oakland
Elmer
Delaware City
Whiting
Watertown
Hammonton
Salem
Bridgeton
Vineland
Egg Harbor City
May's Ld'g.
Taylor's Bridge
Bay Side
Bombay Hook
Millville
Atlantic City
Green Spring
Smyrna
Somer's Pt.
Brenford
Bay Side View
Little Creek
Delaware Bay
Lebanon
Cape May C.H.
Woodside
Magnolia
KENT
Felton
Frederica
Houston
Cape May
Milford
Farmington
Lincoln
Ellendale
Draw Bridge
C. Henlopen
Milton
Nassau
Robbins
Cool Spring
Lewes
Bedden
Haberson
Gravel Hill Sta.
Rehoboth Beach
Georgetown
SUSSEX
Angola
Stockley
Hollyville
Concord
Millsborough
Blackwater
Ocean View
Dagsborough
Gumborough
Frankford
Williamsville
Delmar
Selbyville
Whaleyville
Engr's, Chicago
ATLANTIC OCEAN

FLORIDA.

Named for its flowers, "Peninsula State." Pensacola taken from England by Gen. Jackson during the war of 1812. Entire province ceded to United States 1819. Organized as a territory 1822. Admitted as a state March 3, 1845. State seceded Jan. 10, 1861, re-entered Union July 4, 1868. Number counties 39, miles of railroad 1,324. All elections Tuesday after first Monday in Nov. Numbers senators 32, representatives 76. Sessions of legislature biennial, in odd-numbered years, meeting Tuesday after first Monday in January, holds 60 days. Term of senators 4, of representatives 2 years. Number electoral votes 4, congressmen 2. Idiots, insane, criminals, betters on elections and duelists excluded from voting. Schools fair, school age 4-21. Legal interest 8 per cent, by contract any rate. Population, census of 1890—391,422. Number of slaves in 1860, 61,745. Four-fifths of Florida is in the peninsula, which is about 350 miles N. and S. and 105 miles E. and W. Remainder is the narrow strip along the Gulf, 342 miles E. and W. and 10 to 50 miles N. and S. Area 59,268 sq. miles, 37,931,520 acres. Twenty-first state in size. State surrounded by sea except on north. Coast line over 1,200 miles. Good harbors rare, mostly on Gulf. The northern section is a limestone formation, affording a fair soil. In the middle section are found tracts of great richness. At the south the soil, when dry or reclaimed, is inexhaustible. Shores very low frequently not two feet above tide water. Coral growth at south continues. Surface dotted with lakes. The staple products are corn (most valuable crop), sugar, molasses, rice, cotton, oats, tobacco, vegetables of all kinds, peaches, oranges, and all tropical and semi-tropical fruits, cocoanuts, lumber, fish, oysters, etc. Poultry and stock raising are successful. Cleared land averages $12, woodland $3, swamp $1, and school land $1.25 per acre. Much forest remains. Timber, chiefly pine, of moderate size, free from undergrowth. Game abounds. Climate superb. No snow. Frosts rare at north, unknown at south. Temperature ranges 30 deg. to 100 deg., rarely above 90. Winter averages 59 deg., summer 81 deg. Breezes blow across from Gulf to Atlantic and vice versa, temper the heat and keep air dry and clear. Average rainfall 55 inches, chiefly in summer. Chief Cities, census of 1890—Key West, good harbor and naval station, pop. 18,058. Jacksonville, pop. 17,139. St. Augustine, oldest town in United States. Tallahasse, pop. 2,933, capital. Pensacola, pop. 11,751. Principal Industries.—Almost the entire laboring population is engaged in agriculture and fruit growing. Fishing for fish and oysters and lumbering largely followed. Railroads, 1890, 2,378 miles.

Salaries of State Officers.

Governor $3,500, Lieutenant Governor $500, Secretary of State $2,000, Treasurer $2,000, Comptroller $2,000, Attorney General $3,000, Superintendent of Public Instruction $2,000, Adjutant General $2,000, Land Commissioner $1,200, Chief Justice $3,50


MAP OF
FLORIDA
GEORGIA
ATLANTIC OCEAN
GULF of MEXICO
TALLAHASSEE
Chattahoochee
Mt. Pleasant
Quincy
Midway
Monticello
Bristol
Jasper
Trader's Hill
Callahan
Fernandina
Hart's Road
Jacksonville
Madison
Live Oak
Ellaville
Olustee
Sanderson
Baldwin
Wakulla
Crawfordville
St. Marks
Perry
Wellborn
Lake City
Maxville
Mandarin
Green Cove Spring
Carabelle
Apalachicola
Stephensville
Deadman's Bay
New Troy
Rowland
Mikesville
Lawtey
Starke
Waldo
Newnansville
Gainesville
Archer
Bronson
Micanopy
St. Augustine
Palatka
San Mateo
Cedar Keys
Otter Creek
Millwood
Ocala
Georgetown
Orange
Lake George
Volusia
Garfield
Daytona
Crystal River
Homosassa
Leesburgh
Sumterville
New Smyrna
Ft. Mason
Enterprise
Brooksville
Bay Port
Lake Apopka
Oakland
Empire
Orlando
Lake Jessup
Anclote
Kissimmee
Lake Tohopekaliga
Cape Canaveral
Clear Water Har.
Tampa
Spring Hill
Bartow
Lake Kissimmee
Cabbage Isl.
Tampa Bay
Parish
Ft. Meade
Ft. Kissimmee
Palm Key
Palmetto
Manatee
Ft. Green
St. Lucia
Casey Key
Casey's Pass
Sarasota
Popash
Lake Istokpoga
Pine Level
Lake Okeechobee
Charlotte Har.
Gasparilla Isl.
Captiva Isl.
Big Cypress Swamp
Everglades
Cape Romano
Ten Thousand Islands
Miami
White Water Bay
N. W. Cape
C. Sable
Bay of Florida
Biscayne Bay
Key Largo
Long Isl.
Metcombe
Key West
Florida Keys
Cerro Gorda
Chaffin
Marianna
Milton
Pensacola
Chattahoochee
Eucheeanna
Vernon
Santa Rosa Island
Abes Spring
St. Andrew's Bay
North-western
Portion of
FLORIDA
Gulf of Mexico
Blomgren Bros. Engr's Chicago
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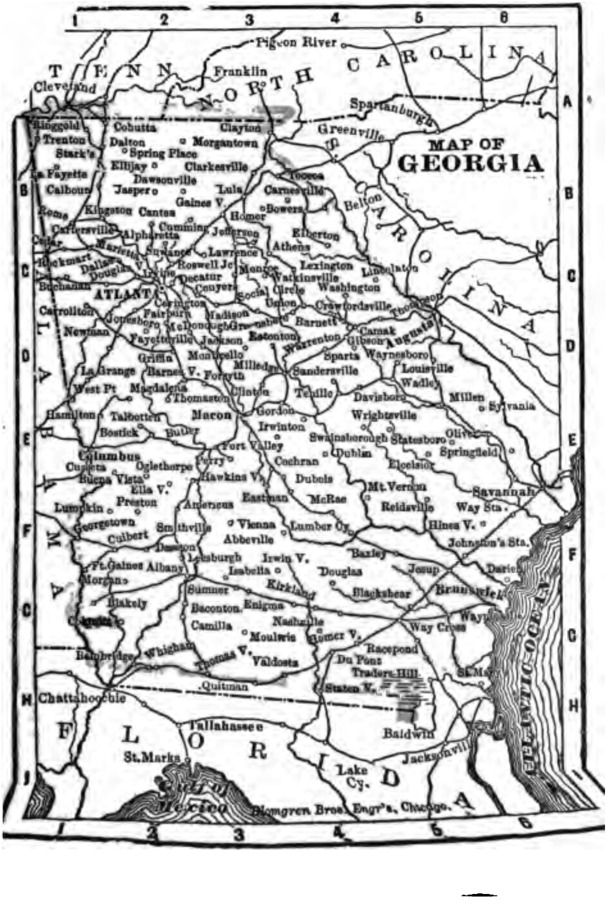
GEORGIA.

One of the thirteen original states, named for King C
II. of England, called the "Empire State of the South."
inally a part of South Carolina and claimed by Spain.
in the Revolution, suffering badly from devastation by E
Severe wars with Creeks and Cherokees settled by treati
and 1791. State seceded January 19, 1861. Many hard
battles during civil war, including Atlanta, etc. Re-e
Union 1870. Number counties 137, miles of railroad 2,68
elections first Wednesday in October, number senators 4
resentatives 175, sessions, biennial in even-numbered
meeting first Wednesday in November, hold forty days.
of senators and representatives two years each. Numb
toral votes 12, number congressmen 10. Idiots, insane
inals and non-taxpayers excluded from voting. Numb
leges 7, State University at Athens organized 1801,
schools excellent, school age 6–18. No state license la
erning commercial travelers, but Atlanta, Athens, Augus
Savannah exact a tax. Legal interest 7%, by contract 8%,
forfeits excess of interest. Population. census of 1890—
353. Greatest length N. and S. 321 miles, greatest wid
miles, area 58,980 square miles or 37,747,200 acres, exclu
water area. Surface diversified. At the north are th
Ridge, Etowah and other mountains. In the southeast
Okefinokee swamp, 150 miles in circumference. Coast i
lar and indented, shore line about 500 miles, three se
Mountain streams are rapid picturesque cataracts and im
basins. The chief falls are the Tallulah, in Habersham c
Toccoa, in the Tugalo, 180 feet high, Towaliga, in Monr
and the Amicolah, which descend 400 feet in a quarte
Corn, wheat, oats, cotton, rice, sweet potatoes, tobacco,
and melons, chief agricultural staples. Fruit, both ten
and semi-tropical, thrives. Stock flourishes. Wool-g
important. Gold is extensively mined. Coal, iron, mar
ist. Cleared land averages $8 and woodland $5.50 pe
One-fourth area heavily timbered with yellow pine o
value for lumber, turpentine. etc. CLIMATE.—At the
mild and extremely healthy, hot in the lowlands. R
temperature 30 deg. to 105 deg. Average, winter 49 deg
mer 82 deg. Rainfall averages 55 inches. CHIEF CITIE
sus of 1890.—Savannah, pop. 41,762, Brunswick, pop. 8,4
of entry. Columbus contains the largest cotton mill
South, pop. 18,650. Atlanta, capital, pop. 65,515, Au
33,150, Macon, 22,698. PRINCIPAL INDUSTRIES.—Th
population engaged in agriculture. Remainder in v
suits. Manufacturing important. Raw material
more abundant and cheap. R. R mileage in 1890,

(Salaries State Officers, page 439.)


MAP OF
GEORGIA
TENN
NORTH CAROLINA
CAROLINA
ALABAMA
FLORIDA
ATLANTIC OCEAN
Gulf of Mexico
Pigeon River
Franklin
Cleveland
Spartanburgh
Greenville
Ringgold
Trenton
Stark's
La Fayette
Calhoun
Rome
Cartersville
Cedar
Rockmart
Dallas
Douglas
Buchanan
Carrollton
Newnan
La Grange
West Pt
Hamilton
Cobutta
Dalton
Spring Place
Ellijay
Dawsonville
Jasper
Kingston
Canton
Cumming
Alpharetta
Marietta
Suwanee
Roswell Jc
Decatur
Irvine
ATLANTA
Jonesboro
Fairburn
Fayetteville
Griffin
Barnes V.
Magdalena
Thomaston
Talbotton
Bostick
Butler
Columbus
Cusseta
Oglethorpe
Buena Vista
Ella V.
Lumpkin
Preston
Georgetown
Cuthbert
Smithville
Dawson
Ft. Gaines
Albany
Morgan
Blakely
Bainbridge
Whigham
Chattahoochie
Clayton
Morgantown
Clarkesville
Lula
Gainesville
Toccoa
Carnesville
Bowers
Homer
Belton
Jefferson
Lawrence
Athens
Elberton
Monroe
Watkinsville
Lexington
Lincolnton
Washington
Conyers
Covington
Social Circle
Union
Crawfordsville
Madison
McDonough
Greensboro
Barnett
Thomson
Camak
Gibson
Augusta
Jackson
Eatonton
Warrenton
Sparta
Waynesboro
Monticello
Milledgeville
Forsyth
Sandersville
Louisville
Wadley
Clinton
Tennille
Davisboro
Millen
Sylvania
Macon
Gordon
Irwinton
Wrightsville
Swainsborough
Statesboro
Oliver
Springfield
Fort Valley
Perry
Cochran
Dublin
Excelsior
Hawkins V.
Dubois
Mt. Vernon
Americus
Eastman
McRae
Reidsville
Savannah
Way Sta.
Vienna
Abbeville
Lumber Cy.
Hines V.
Johnston's Sta.
Leesburgh
Irwin V.
Isabella
Baxley
Douglas
Jesup
Darien
Sumner
Kirkland
Blackshear
Brunswick
Baconton
Enigma
Camilla
Nashville
Moultrie
Homer V.
Way Cross
Wayne
Thomas V.
Valdosta
Racepond
Du Pont
Traders Hill
St. Marys
Quitman
Staten V.
Tallahassee
St. Marks
Baldwin
Jacksonville
Lake Cy.
Blomgren Bros. Engr's, Chicago.
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IDAHO.

Gold discovered, 1880, in Oro Fino creek. Organized as territory March, 1863, and admitted to the Union July 3, 1890. Number counties 18. All elections Tuesday after first Monday in Nov., number senators, 12, representatives, 24, sessions of legislature biennial, in even-numbered years, meeting second Monday in Dec., holds 60 days, terms of senators and representatives, 2 years each. School age, 5-21 years. Legal interest rate 10 per cent., by contract, 18 per cent., usury forfeits three times excess of interest; miles railroad, 929.

Population, 1880. 32,610. Males, 21,818, females, 10,792, natives 22,636, foreign, 9,974, white, 29,013, Indians, 165. Estimated increase, 16 per cent.

Topography, Area, Soil, Products, Etc.—Length, 140 to 490 miles, width 45 to 286 miles. Area, 84,290 sq. miles, 53,944,600 acres. Surface table land and mountains. About one-twelfth is arable and one-tenth more grazing land. One-third barren, but may be reclaimed by irrigation. Many lakes are found, as well as numerous water powers. Forests estimated at 9,000,000 acres. The soil, where water can be had, is fertile. Wheat, oats, rye, barley, potatoes and hay are good crops, and dairying and stock-raising profitable. Gold is found in quartz veins in Idaho, Boise and Alturas counties, silver in Owyhee county. Some of the mines very rich. Wood river district on southern slope of Salmon River mountains, at headwaters of Wood or Malad rivers, gives promise of valuable mining operations, chiefly placers. Coal in vicinity of Boise City. Territory ranks sixth in gold and silver.

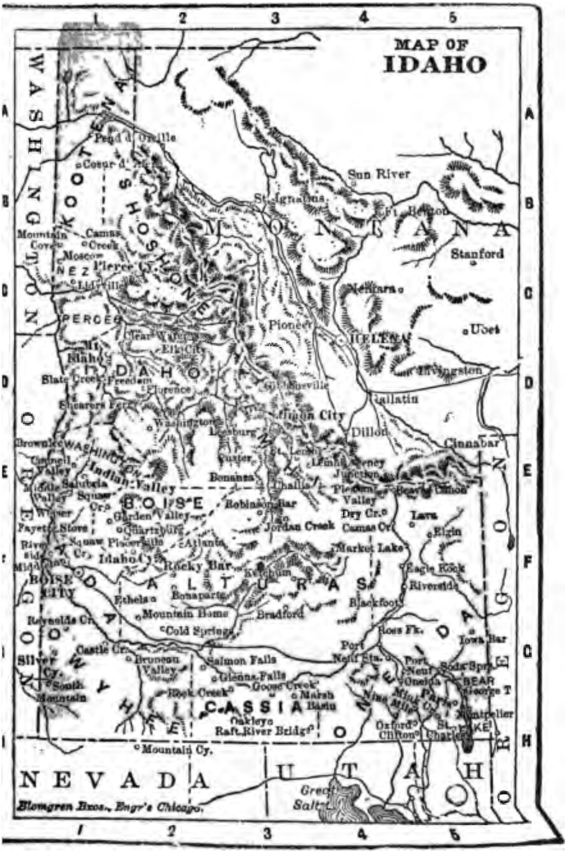
Climate severe, with heavy snows in mountains, on plains less severe, but cold and bracing. In the valleys it is milder, with moderate snowfall. Summers cool and pleasant. Temperature averages 20 deg. in winter, 70. deg. in summer. Rainfall small in the Rocky and Bitter Root mountains, and very light at the N. and W.

Chief Cities.—Boise City (capital), Florence, Silver City.

Leading Industries.—Mining, grazing, agriculture, smelting and lumbering.

Salaries of State Officers.

Governor	$2,600
Secretary	1,800
Treasurer	1,000
Auditor	1,800
Librarian	250
Chief Justice	3,000
Two Associate Justices	3,000
Senators and Representatives	$4 per day and 20 cents mileage
Two District Attorneys	$250 and fees
Collector of Internal Revenue	2,250
Three Deputy Collectors	$1,400 to 1,600
Assayer	2,000


MAP OF
IDAHO
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A
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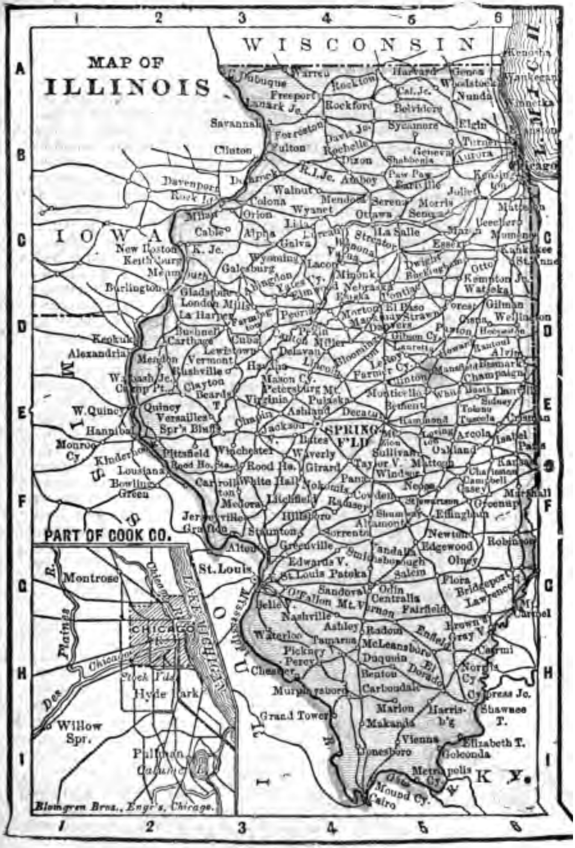
C
D
E
F
G
H
WASHINGTON
OREGON
MONTANA
NEVADA
UTAH
KOOTENAI
SHOSHONE
NEZ PERCE
IDAHO
WASHINGTON
BOISE
ALTURAS
ADA
OWYHEE
CASSIA
ONEIDA
BEAR LAKE
Pend d' Oreille
Coeur d' Alene
Mountain Cove
Camas Creek
Moscow
Pierce Cy.
Lidyville
Mt. Idaho
Slate Creek
Freedom
Clear Water
Elk City
Florence
Shearers Fy.
Washington
Leesburg
Custer
Bonanza
Brownlee
Cannell Valley
Salubria
Middle Valley
Indian Valley
Squaw Cr.
Weiser
Payette River
Stone
Garden Valley
Quartzburg
Placerville
Atlanta
Idaho Cy.
Rocky Bar
Ketchum
Middleton
BOISE CITY
Ethels
Bonaparte
Mountain Home
Bradford
Cold Springs
Reynolds Cr.
Castle Cr.
Silver Cy.
South Mountain
Bruneau Valley
Salmon Falls
Glenns Falls
Rock Creek
Goose Creek
Marsh Basin
Oakley
Raft River Bridge
Mountain Cy.
Robinson Bar
Jordan Creek
Challis
Lemhi
Junction
Pleasant Valley
Dry Cr.
Camas Cr.
Market Lake
Eagle Rock
Riverside
Blackfoot
Ross Fk.
Port Neuf Sta.
Port Neuf
Oneida
Malad
Nine Mile Cr.
Oxford
Clifton
St. Charles
Montpelier
Soda Spr.
Iowa Bar
Elgin
Lava
Beaver Canon
Cinnabar
Sun River
St. Ignatius
Ft. Benton
Stanford
Pioneer
HELENA
Livingston
Gallatin
Dillon
Union City
Virginia City
Bannack
Great Salt Lake
Blomgren Bros., Engr's Chicago.

ILLINOIS.

Name derived from Illini tribe of Indians, meaning Superior Men. Called "Prairie State" and "Sucker State." Ft. Dearborn (Chicago) massacre, 1812, by Pottawatomies. Admitted as state, 1818. Capital moved to Springfield, 1836. Soldiers in Mexican war, 5,000. Union soldiers, 259,092. Number counties, 102. All elections, Tuesday after first Monday in Nov.; number senators, 51; representatives, 153; sessions biennial, in odd-numbered years, meeting first Monday in Jan., term of senators, 4 years; representatives, 2 years. Number electoral votes, 22; congressmen, 20; number voters, 796,847; convicts excluded from voting. School system excellent; number colleges, 28: school age 6–21. Legal interest, 6 pct.; by contract, 8 pct.; usury forfeits entire interest. Miles of railroad, 9,965. Population, census of 1890, 3,826,351. Extreme length N. and S. 386 miles; extreme width, 218 miles. Av. elevation, 482 ft., elevation at Cairo, 340 ft.; highest point, 1,140 ft. in northw. portion. Area, 56,000 sq. m., 35,840,000 acres; miles of navigable waterways, 4,100. Frontage on Lake Michigan, 110 miles. Among first agricultural states of Union. Staple crops, corn, wheat, oats, rye, barley, broomcorn, vegetables, hay, potatoes, etc. Fruits and grapes do well at south. Yield of all crops cultivated, large. Coal area, two-thirds state. First coal mined in America at Ottawa; quality moderately fair. Considerable forest of hardwoods at south on hills and in bottoms. Superior quality limestone on Fox and Desplaines rivers; lead, most important mineral; Galena in center of richest diggings in N. W. Rich salt wells in Saline and Gallatin counties, 75 gal. brine making 50 lbs. salt. State ranks first in corn, wheat, oats, meat packing, lumber traffic, malt and distilled liquors and miles railway; second in rye, coal, agricutural implements, soap and hogs; fourth in hay, potatoes, iron, steel, mules, milch cows and other cattle. Cleared land av. $28, and woodland or raw prairie, $18 per acre. Climate healthful as a rule; subject to sudden and violent changes at north. Temp. ranges from 30 deg. below zero to 101 deg. above. Av. temp. at Springfield, 30 deg. winter; 78 deg. summer. At Chicago, 25 deg. winter, 72 deg. summer. At Cairo, 38 deg. winter, 80 d. summer. Frost comes last of Sept. Vegetation begins in April. Rainfall 37 inches. Chief Cities, census of 1890—Chicago, pop. 1,099,133; Peoria, 40,758; Quincy, 31,478; Springfield (capital), 24,872; Aurora, 19,634: Bloomington, 22,242; Decatur, 16,841; Elgin, 17,429; Joliet, 27,407; Rockford, 23,589; Rock Island, 13,596. Industries—Agricult., mining, stock raising and mfg. of all kinds.

Salaries of State Officers.

Governor $6,000, Sec. of State $3,500, Treas. $3,500, Auditor $3,500, *Attorney* General $3,500, Chief Justice $5,000, Senators *and Representatives* $5 per day, mileage 10 cents and $50



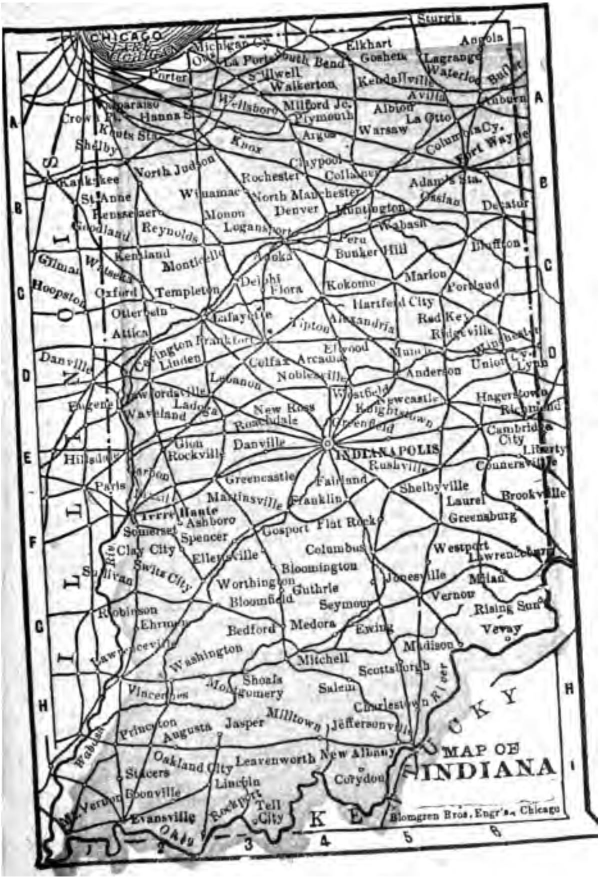
Blomgren Bros., Engr's, Chicago.

INDIANA.

"Hoosier State." Settled at Fort St. Vincents, now
nes, in 1702, by French-Canadian voyagers. Admitted a
Dec. 11, 1816. Sixth state admitted. Soldiers furnis
Mexican war 5,000. Union soldiers 196,363. Number co
92. All elections Tuesday after first Monday in Nov.;
senators, 50; representatives, 100; sessions of legislatu
nial, in odd-numbered years, meet Thursday after first M
holds 60 days: terms of senators 4 years, of representat
number electoral votes, 15; number congressmen, 13;
voters, 498,437. Fraudulent voters and bribers exclude
voting. Number of colleges 15, State University at Blo
ton; medical school at Indianapolis, university at Notre
flourishing common-school system; school age, 6–21. L
terest rate 6 pct., by contract 8 pct., usury forfeits exce
terest. Miles of railroad, 6,004. Population: Census o
2,192,404. Extreme length N. and S. 275 miles, width a
150 miles, area 35,910 sq. miles, 22,982,400 acres. Surfac
times hilly. No mountains. Hills 200 to 400 feet above
rounding country. Frontage on Lake Michigan 43 miles.
bottoms wide and unsurpassed in fertility, highland
level, rich, black or sandy soil. All crops and fruits of t
perate zone do well both in yield and quality. State hi
vored for agriculture and manufacturing. Ranks se
wheat, fourth in corn, hogs and agricultural implemen
in coal. Cattle, hogs, sheep, horses, etc., are most succe
raised. Corn, wheat, oats, staple crops. Timber still ab
at south, but in scattered tracts. Coal fields in south
portion of state over 7,000 sq. miles, on much of whi
workable veins. Kinds of coal, block, cannel and ordi
tuminous, cokes well, superior for gas. Building stone
and of unsurpassed quality, including the famous
stone. Supply unlimited. Land is cheap, cleared av
$18, and woodland $14 per acre. In rich section to sou
cleared land $15, woodland $10 to $12. Chances for
homes, comfort and advantages considered, not excell
where. Iron ore is found.

Climate changable in winter, but seldom severe; win
north and west; summers moderately long, and sometim
temperature averages, winter 34 deg., summer 78 deg.
blossom in March. Rainfall 40 inches. Health excellen
laria rapidly disappearing from bottoms before prope
age. Chief Cities: Census of 1890—Indianapolis (capit
tains deaf and dumb, blind and insane asylums, pop.
Terre Haute, 31,000; Evansville, 50,647; Fort Wayne,
Michigan City, lake port, 10,704; Anderson, 10,759; E
11,489; Lafayette, 16,283; Logansport, 13,798; New
21,000: South Bend, 21,786. Industries—Agriculture,
and manufacturing.

[Salaries of State Officers, page 439.]



MAP OF INDIANA

Blomgren Bros. Engr's., Chicago

INDIAN TERRITORY.

Set apart for peaceful tribes. Organized 1834, no territ
government. Government in hands of tribes. Also cont
Oklahoma territory,which was opened to settlement by pr
mation of President Harrison on April 22,1889. Oklahoma
contains 2,037,414 acres. Each tribe elects officers, legislat
and courts,and criminals are punished as in the states. No
for collections of debt. All land held in common,and any In
may cultivate as much as he wants, but one-quarter mile
intervene between farms. Whites can hold land only by m
ing an Indian. Miles of railroad,1,155. School system excel
pupils educated and supported by the tribes, half entire
enue being set aside for the purpose. Three colleges,200 sch

Population,census of 1890,119,000. Cherokees 20,000,Choc
16,500, Creeks 14,500, Chicasaws 7,000, Seminoles 2,500, Os
2,400, Cheyennes 3,298, Araphoes 2,676, Kiowas 1,120, Paw
1,438,Comanches 1,475. Two-fifths of entire population can
Extreme length east and west 470 miles,average length 320 n
width 210 miles, area 69,991 miles, 44,154,240 acres. Su
vast rolling plain sloping eastward. Valleys timbered he
with hard woods. South of Canadian river prairies very fe
valleys rich and productive throughout territory,grass ric
heavy almost everywhere. Corn,cotton,rice,wheat,rye,pot
are staples. Grazing interests large. Coal is found, but e
unknown. Fur-bearing animals numerous.

CLIMATE.—Mild in winter, warm in summer. Temper
averages 41 deg. winter, 80 deg. summer. Rainfall at ea
inches, center 36, far west 22. Health as good as anywhe
Union.

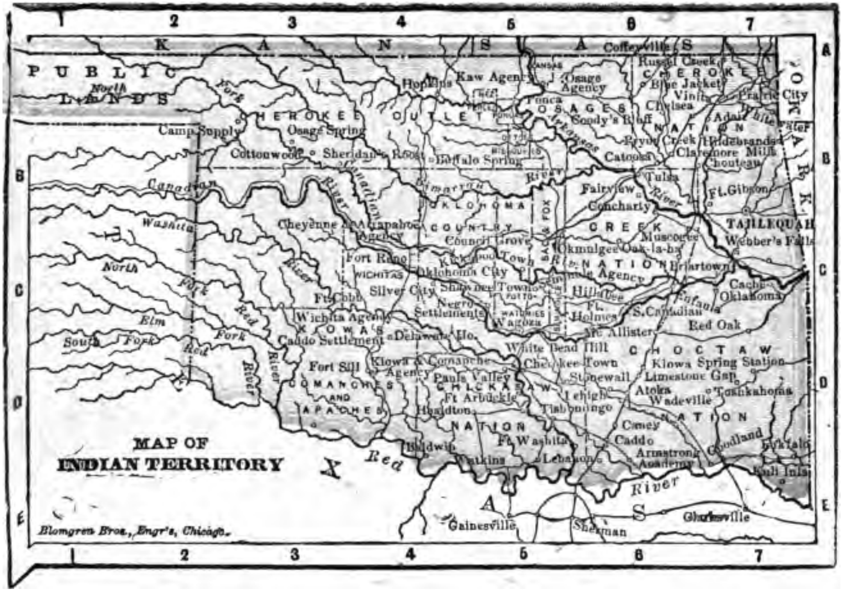
CHIEF CITIES.—Guthrie 5,311,Oklahoma City 4,138,King
1,133; Tahlequah, capital of Cherokees, Tishomingo, capi
Chickasaws, Tushkahoma, of Choctaws, Muscogee, of Cr
Pawhuska, of Osages, Seminole Agency, of Seminoles, Pa
Agency, of Pawnees, Kiowa and Comanche Agency, of Ki
and Comanches.

LEADING INDUSTRIES.—Agriculture and grazing.

INDIAN AGENCIES.

ARAPHOE.		**OSAGE.**	
Agent	$ 900	Agent	$
		Physician	
CHEYENNE.		**OTOE.**	
Agent	2,200	Agent	
Physician	1,200	Physician	
KAW.		**PAWNEE.**	
Superintendent	1,600	Clerk	
Physician	1,200	Physician	
KIOWA AND COMANCHE.		**PONCA.**	
Agent	1,000	Superintendent	
Physician	1,000	Clerk	

OAKLAND.		**QUAPAW.**		**SAC AND FO**	
Supt.	$1,000	Agent	$1,500	Agent	
3 Teachers	600	Physician	1,200	2 Physicians	



MAP OF
INDIAN TERRITORY

Blomgren Bros., Engr's, Chicago.

IOWA.

"Hawkeye State." Settled first by Dubuque, 1788, a French Canadian, for whom that city is named. First settlers miners of lead. Active immigration began 1833. Iowa territory organized July 4, 1838. Admitted as state 1846. Union soldiers furnished 76,242. Number counties 99, miles of railroad 8,436. State elections annual, Tuesday after second Monday in October, excepting years of presidential elections, when all elections occur together. Number senators 50, representatives 100, sessions of legislature biennial, in even-numbered years, meeting second Monday in January. Terms of senators 4 years, of representatives 2 years. Number electoral votes 13, congressmen 11. Idiots, insane and criminals excluded from voting. Number colleges 19, school age 5-21. School system admirable, endowment liberal. Legal interest rate 6 per cent., by contract 10 per cent., usury forfeits 10 per cent. per year on amount. State has adopted prohibition.

Population, census or 1890, 1,911,896.

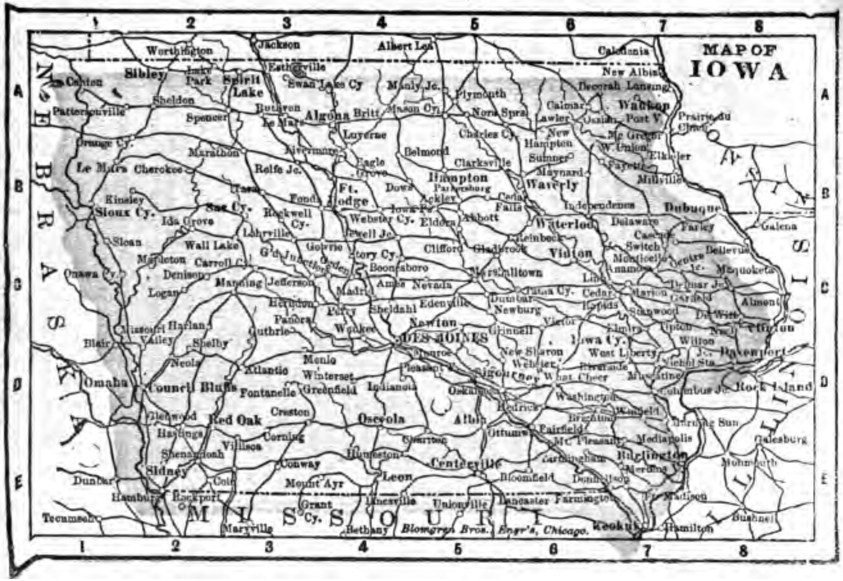
Extreme length E. and W. 208 miles, width 208 miles, area 55,470 sq. miles, 35,500,800 acres. Surface almost an unbroken prairie, without mountains and with very few low hills. Natural meadows everywhere, and water abundant. Many small lakes at north. Highest point Spirit Lake, 1,600 feet above the sea. Soil superior. Corn, wheat, oats, potatoes, hay, barley, sorghum, rye, staples. Apples unsurpassed in United States; pears, plums, cherries, grapes and berries are excellent crops. Cattle and other stock interests large and thrifty. Dairying attractive. Forest area small—scarcely equal to home requirements. Coal area fair. Other minerals unimportant. Manufacturing active. Improved land averages $20; unimproved, including railroad and government domains, $12.50. State ranks first in hogs, second in milch cows, oxen and other cattle, corn, hay and oats; third in horses; fifth in barley and miles of railway.

Climate subject to extremes. Winter severe, with sharp north and west winds; summers pleasant. Temperature averages, summer 72 deg., winter 23 deg.; ranges from 10 deg. below to 99 deg. above zero. Rainfall 42 inches. Wheat harvest in August.

Chief Cities—Census of 1890.—Des Moines, metropolis and capital, pop. 50,067; Dubuque, 30,147; Davenport, 25,161; Burlington, 26,000; Council Bluffs 3,21,388. Keokuk, Burlington and Dubuque are United States ports of delivery. Cedar Rapids, 17,*977; Clinton, 14,000*; Davenport, 25,161; Keokuk, 14,075; Sioux *City, 37,862.*

Leading Industries.—Agriculture, stock-raising and manu*facturing.*

[Salaries of State Officers, page 439.]


MAP OF
IOWA
NEBRASKA
MISSOURI
ILLINOIS
Blomgren Bros. Engr's, Chicago.
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A
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E
Worthington
Jackson
Albert Lea
Caledonia
New Albin
Sibley
Lake Park
Spirit Lake
Estherville
Swan Lake Cy
Manly Jc.
Plymouth
Decorah
Lansing
Canton
Sheldon
Pattersonville
Spencer
Emmetsburg
Le Mars
Algona
Britt
Mason Cy.
Nora Spa.
Calmar
Waukon
Lawler
Ossian
Post V.
Prairie du Chien
Orange Cy.
Luverne
Charles Cy.
New Hampton
Mc Gregor
W. Union
Marathon
Livermore
Eagle Grove
Belmond
Clarksville
Sumner
Fayette
Elkader
Le Mars
Cherokee
Rolfe Jc.
Hampton
Parkersburg
Maynard
Millville
Kinsley
Sioux Cy.
Ida Grove
Sac Cy.
Fonda
Ft. Dodge
Dows
Ackley
Cedar Falls
Waverly
Independence
Dubuque
Galena
Rockwell Cy.
Iowa Fs.
Webster Cy.
Eldora
Abbott
Waterloo
Delaware
Farley
Sloan
Wall Lake
Lohrville
Jewell Jc.
Reinbeck
Cascade
Switch
Bellevue
Mapleton
Carroll
G'd Junction
Gowrie
Ogden
Story Cy.
Clifford
Gladbrook
Vinton
Monticello
Anamosa
Centre Jc.
Maquoketa
Onawa Cy.
Denison
Manning
Jefferson
Boonesboro
Ames
Nevada
Marshalltown
Tama Cy.
Lisbon
Delmar Jc.
Logan
Herndon
Madrid
Sheldahl
Edenville
Dunbar
Newburg
Cedar Rapids
Marion
Garfield
Almont
Panora
Perry
Stanwood
De Witt
Missouri Valley
Harlan
Guthrie
Woodward
Newton
Grinnell
Victor
Elmira
Tipton
Clinton
Blair
Shelby
DES MOINES
Iowa Cy.
Wilton
Neola
Atlantic
Menlo
Monroe
New Sharon
Webster
West Liberty
Riverside
Davenport
Omaha
Council Bluffs
Winterset
Pleasant V.
Sigourney
What Cheer
Muscatine
Rock Island
Fontanelle
Greenfield
Indianola
Oskaloosa
Washington
Columbus Jc.
Glenwood
Red Oak
Creston
Osceola
Albia
Eldridge
Winfield
Hastings
Villisca
Corning
Chariton
Ottumwa
Fairfield
Brighton
Morning Sun
Mt. Pleasant
Mediapolis
Galesburg
Shenandoah
Humeston
Centerville
Burlington
Monmouth
Sidney
Conway
Leon
Bloomfield
Donnellson
Dunbar
Mount Ayr
Hamburg
Rockport
Grant Cy.
Lineville
Unionville
Lancaster
Farmington
Ft. Madison
Tecumseh
Maryville
Bethany
Keokuk
Hamilton
Bushnell

KANSAS.

Name Indian, means "Smoky water." Called the "Garden State." Kansas Territory organized May, 1854. Law known as "Missouri Compromise," forbidding slavery in states formed out of Louisiana purchase north of latitude 36 deg. 30 min. repealed, and question of slavery left to the territory. At first it was decided for slavery. Constitution prohibiting slavery adopted July, 1859. Admitted as a state 1861. Union soldiers furnished, 20,149, number counties 95, miles railroad 8,810, first railroad built 1864, 40 miles long. All elections Tuesday after first Monday in Nov. senators 40, representatives 125, sessions biennial, meeting second Tuesday in Jan. in odd-numbered years, limit of session 50 days; term of senators 4 years, of representatives 2 years. Number electoral votes 9, congressman 7. Idiots, insane, convicts and rebels excluded from voting. Number colleges 8, number schoolhouses over 8,000, school age 5-21 years; school system magnificent. Endowment immense. Legal interest 7 per cent, by contract 12 per cent, usury forfeits excess of interest.

Population.—Census of 1890, 1,427,096.

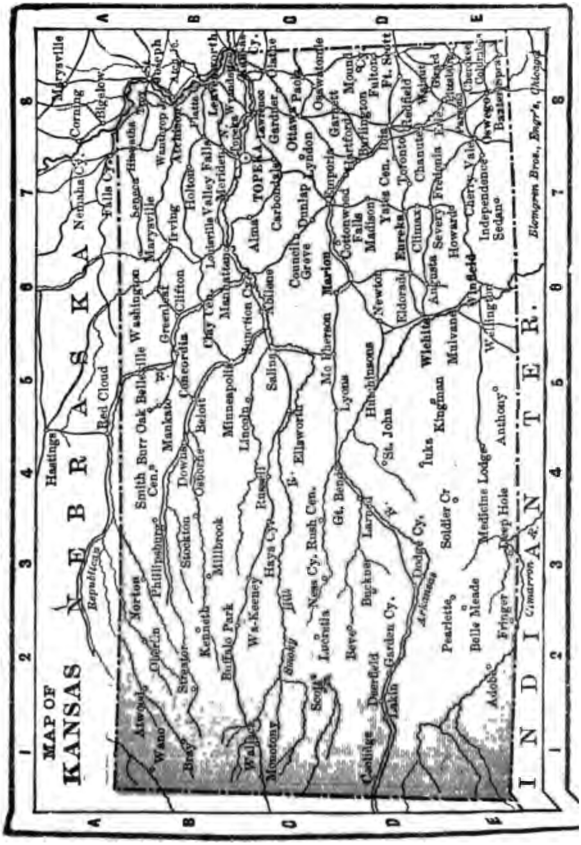
Extreme length E. and W., 410 miles, breadth 210 miles, area 81,700 sq. miles, 52,288,000 acres. No mountains. There is little navigable water. Water powers of fair proportion, irrigation necessary in large sections. Coal area of moderate extent; veins usually thin; quality fair. Soil fine. Corn, wheat, oats, hemp, flax and rye, staples. Castor beans and cotton grows successfully. Soil of prairies deep loam of dark color; bottoms sandy loam. Peculiarly favorable to stock-raising. Prairie rich in grasses. Dairying favored. Fruits successful. Forests small. Limestone and colored chalk furnish building materials. Value improved land averages $12 per acre, woodland $15. Manufacturing growing. State ranks fifth in cattle, corn and rye. Climate—Salubrious; winters mild, summers warm, air pure and clear. Temperature averages winter 31 deg., summer 78 deg., ranges 8 deg. below to 101 deg. above zero; such extremes exceptional. Rainfall averages 45 inches at east, 32 inches at west.

Chief Cities—Census of 1890.—Leavenworth, pop. 21,613, Topeka (capital) 31,809, Atchison 14,222, Fort Scott, 11,837; Wichita 24,000, Lawrence 9,975. State University at Lawrence, state asylums for insane and feeble-minded at Topeka and Ossawatomie; institution for education of the blind at Wyandotte, for deaf mutes, Olathe.

Industries.—Agriculture, stock-raising, manufacturing, etc.

SALARIES OF STATE OFFICERS.

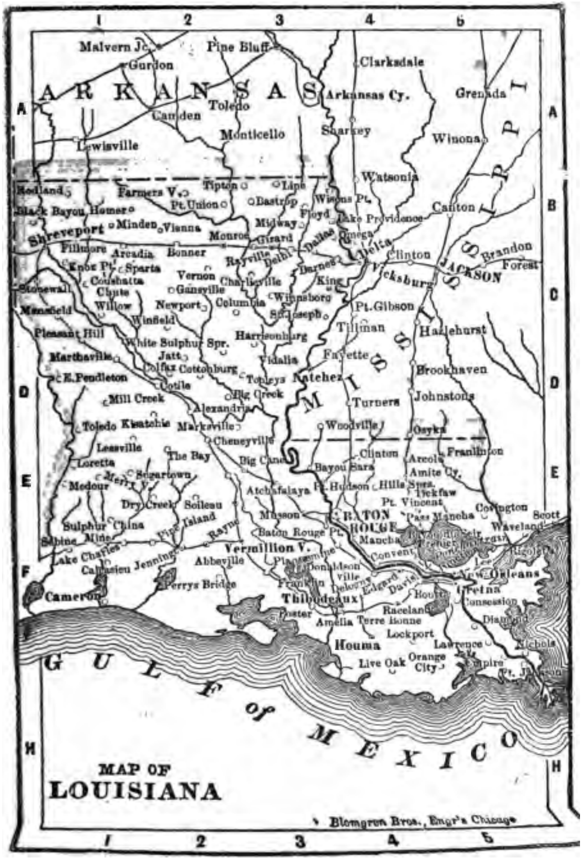
Governor $3,000, Secretary of State $2,000, Treasurer $2,500, Auditor $2,000, Attorney General $1,500, Superintendent of Public Inst. $2,000, Secretary Board of Agriculture $2,000. Insurance Commissioner $2,500, three Railroad Commissioners $3,000, State Librarian $1,500, Chief Justice $3,000, two Associate Justices $3,000, Senators and Representatives $3 per day, mileage 15 cents, District Judge $3,500, Pension Agent $4,000.


MAP OF KANSAS
NEBRASKA
INDIAN TER.
A
B
C
D
E
1
2
3
4
5
6
7
8
Marysville
Corning
Bigelow
Nemaha Cy.
Falls Cy.
Hastings
Red Cloud
Republican
St. Joseph
Atchison
Leavenworth
Wyandotte
Kansas Cy.
Olathe
Lawrence
TOPEKA
Hiawatha
Seneca
Marysville
Washington
Belleville
Burr Oak
Smith Cen.
Phillipsburg
Norton
Oberlin
Atwood
Wano
Bray
Kenneth
Stockton
Millbrook
Buffalo Park
Wa-Keeney
Hays Cy.
Russell
Ellsworth
Salina
Abilene
Junction Cy.
Manhattan
Clay Cen.
Concordia
Clifton
Irving
Holton
Valley Falls
Louisville
Meriden
Alma
Carbondale
Burlingame
Ottawa
Paola
Osawatomie
Garnett
Mound Cy.
Fulton
Ft. Scott
Girard
Oswego
Baxter Spgs.
Columbus
Parsons
Chanute
Iola
Toronto
Fredonia
Independence
Sedan
Cherry Vale
Winfield
Wellington
Mulvane
Wichita
Augusta
Eldorado
Newton
Marion
Council Grove
Emporia
Cottonwood Falls
Madison
Eureka
Howard
Severy
Climax
Hutchinson
McPherson
Lyons
Minneapolis
Lincoln
Beloit
Mankato
Osborne
Downs
Great Bend
Larned
St. John
Iuka
Kingman
Anthony
Medicine Lodge
Deep Hole
Soldier Cr.
Dodge Cy.
Arkansas
Cimarron
Fringer
Belle Meade
Pearlette
Garden Cy.
Lakin
Deerfield
Coolidge
Adobe
Scott
Lucretia
Ness Cy.
Rush Cen.
Beve
Buckner
Smoky Hill
Monotony
Wallace
Streator
Ellis
Blomgren Bros., Engr's, Chicago

LOUISIANA.

Named for Louis XIV of France. Called the "Pelican State" and the "Creole State." First sugar cane cultivated in United States near New Orleans 1751. First sugar mill 1758. First shipment of cotton abroad 1784. Purchased by United States 1803, for $15,000,000. Louisiana admitted as a state under present name April 8, 1812. In the war with England immediately following, the state made a glorious record, and at the battle of New Orleans, Jan.8,1815, humiliated the British and ended the war. Seceded Jan. 26,1861. Some fighting on the river between boats and forts. New Orleans captured May 1, 1862. 1868, in June, state re-entered Union. Capitol, Baton Rouge. Number of parishes or counties 58, miles railroad 1,316. Legislature and state officers elected quadrennially, members congress biennially, state elections Tuesday after third Monday in April, number senators 36, representatives 98, sessions biennial, in even-numbered years, meeting second Monday in May, holds 60 days, terms of senators and representatives 4 years each. Number electoral votes 8, congressmen 6, miles of railroad in 1890, 1,654. Idiots, insane and criminals excluded from voting. Legal interest 5 per cent, by contract 8 per cent, usury forfeits entire interest. Educational facilities average. POPULATION: Census of 1890, 1,118,587. Number slaves in 1860, 331,726. Extreme length E. and W. 294 miles, breadth 248 miles, area 45,420 sq. miles, 29,068,800 acres. Coast line 1,276 miles, very irregular navigable rivers 2,700 miles. Mississippi flows in or on the borders of the state. Bays numerous on coast but harbors indifferent. Many small islands in Gulf. Staple products, sweet potatoes, sugar, molasses, rice, corn, cotton, grasses, oats, etc. All fruits of the semi-tropical climate thrive. State ranks first in sugar and molasses and third in rice. Forests almost inexhaustible. Timber superior in kind and quality, lumbering important industry. Salt produced on a large scale. Iron discovered. Cleared land averages $12.50, woodland $3 to $4 per acre. Reclamation of marshes very profitable and beginning to be done on a large scale. Moss-gathering profitable and invites more attention. CLIMATE.—Temperature ranges from 44 to 100 deg., average summer 81 deg., winter 55 deg. Rainfall 57 inches, chiefly in spring and summer. Summers long and occasionally hot. Health average. Actual death rate lower than in many northern sections. Occasional yellow fever in the cities. CHIEF CITIES.—Census of 1890. New Orleans port of entry and largest cotton market in the world 241,995, Baton Rouge (capitol) 10,397, Shreveport 11,482, Morgan City port of entry. State institution for insane at Jackson, for deaf mutes and blind Baton Rouge. INDUSTRIES.-Three-fifths of laboring population ngaged in agriculture. Average income of rural population mong highest in Union. Number industries 1,600.

(Salaries of State Officers, page 439.)



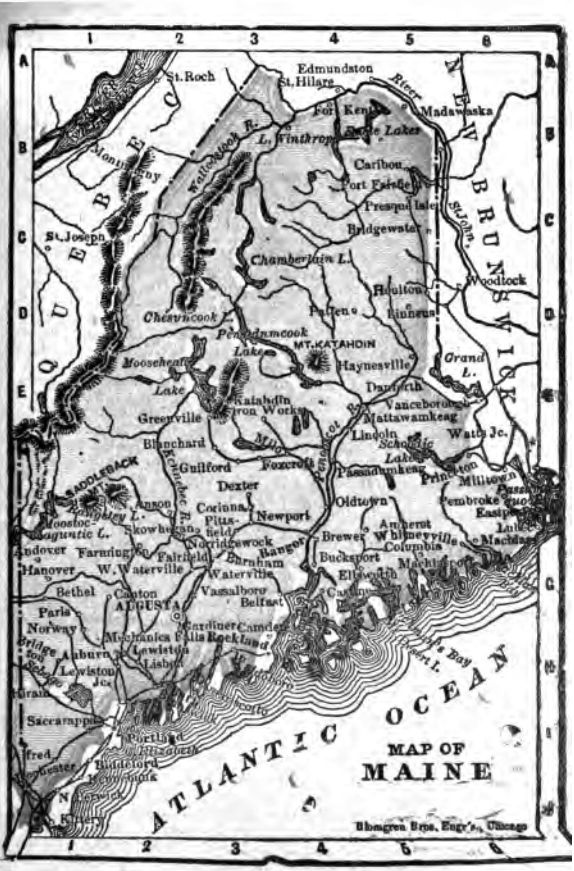
MAP OF LOUISIANA

MAINE.

Called the "Pine Tree State" or "Lumber State;" originally included New Hampshire; settled by English 1607, French in 1613. Number counties 16, Union soldiers 70,107, miles of railroad 1,340. State elections second Monday in Sept., number senators 31, representatives 151, sessions biennial in odd-numbered years, meeting first Wednesday in Jan., terms of senators and representatives 2 years each. Number electoral votes 6, congressmen 4, paupers and Indians not taxed excluded from voting. Number colleges 3, system of common, high and normal schools excellent, school age 4-21 years, legal rate interest 6, by contract, any rate. POPULATION.—Census of 1890, 661,086. Indians—Penobscots 625, Passamaquoddies 502. Extreme length north and south 298 miles, width 210 miles, shore line about 2,480 miles, area 33,056 sq. miles, land 29,885 sq. miles, 21,155,840 acres, 37th of states and territories in size. Surface hilly, mountainous toward center. Highest point, Katahdin, 5,400 feet; largest island, Mount Desert, 92 sq. miles. Area of lakes and streams, one-thirteenth entire state. The soil is medium, only except on some of the streams, where it is rich. Hay the best crop. Wheat, oats, corn, hops, potatoes, buckwheat and the ordinary vegetables grow. Cattle do fairly, dairying pays. Half the state is forest of excellent timber. Cleared land averages $15 and forest land $14 per acre. Slate, copper and granite are found in large quantities. Winter average 29 deg., summer 67 deg., rainfall 45 inches, snow lies 80 to 130 days. Climate excellent, except for pulmonary troubles. Death rate low. Chief industries—Agriculture and kindred pursuits, lumbering, fisheries, $3,620,000 yearly; quarrying, ship-building (380 establishments). Principal cities, census of 1890.—Portland (seaport) pop. 36,608, Lewiston 21,668, Bangor (port of entry) 19,090, Biddeford 14,418, Augusta (the capital) 10,521, Bath 8,713, Rockland 7,599.

Salaries of State Officers.

Governor	$2,000
Secretary of State	1,200
Treasurer	1,600
Attorney General	1,000
Adjutant General	900
Superintendent Common Schools	1,000
Secretary Board of Agriculture	600
State Librarian	600
Chief Justice	3,000
Seven Associate Justices	3,000
Senators and representatives	$150, mileage 20 cents
District Judge	3,500
Collector Internal Revenue	2,500
Collector Customs	6,000
Surveyor Customs	4,500
Pension Agent	4,000



MAP OF MAINE

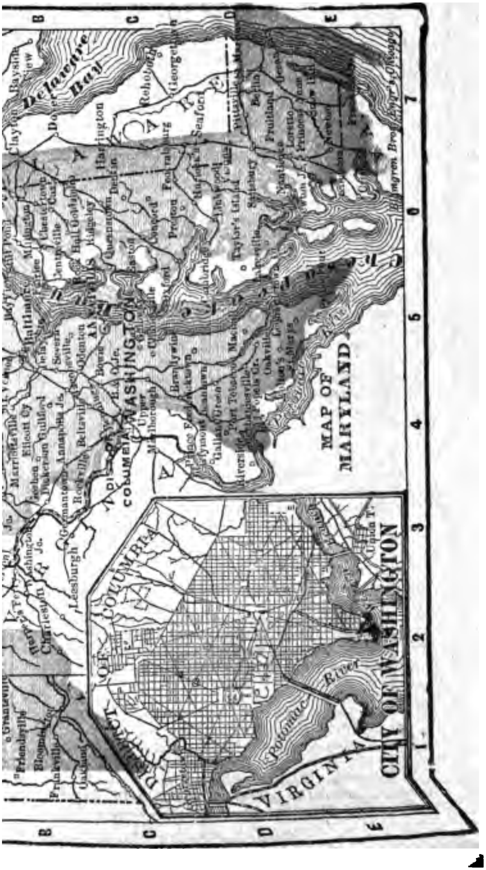
Blomgren Bros., Engr's., Chicago

MARYLAND.

One of the thirteen original states. Baltimore laid 1730. Federal congress met at Annapolis 1783, when Washington resigned command of army. Federal constitution ratified April 28, 1778. Fredericktown and other places burned in war of 1812, and Fort McHenry bombarded. First blood of civil war shed at Baltimore. April 19, 1861. Legislature opposed war April 26, 1861, but passed resolutions favoring the South. Battle of Antietam Sept. 16 and 17, 1862. Slavery abolished 1864. Union soldiers furnished 46,638. No. counties 23. Miles railroad 1,225. All elections Tuesday after first Monday in Nov. Number senators 26, representatives 91, sessions biennial in even-numbered years, meet first Wednesday in Jan., and hold 90 days. Term of senators 4 years, of representatives 2 years. Number of electoral votes 8, congressmen 6. Insane, convicts and bribers excluded from voting. No. colleges 11, school age 5-20, school system fair. Legal interest 6 per cent, usury forfeits excess of interest. Population: census of of 1890, 1,042,390. No. of slaves in 1860, 87,189. Topography, Area, Soil, Products, etc.—Length E. and W. 196 miles, width 8 to 122 miles, area 9,860 sq. miles. Acreage of state 6,310,400; water surface large. Western and northern sections mountainous and broken. Chesapeake Bay almost divides the state. Tide water coast nearly 500 miles. Chief navigable rivers Potomac, Susquehanna, Patuxent, Patapsco, empty into the bay. At the west is the Youghiogheny. Soil varies from very poor to very good. Cleared land averages $22.50 and woodland $14 per acre. The average value of latter lowered by mountain sections. Considerable good timber remains. Enormous coal fields west. Copper is found in Frederick and Carroll counties, iron ore in Allegheny, Anne Arundel, Carroll, Baltimore, Frederick and Prince George's counties. Great oyster, fish, fruit and vegetable producing state. Oyster beds most valuable in Union. Wheat, corn, oats, buckwheat and tobacco staple crops. Opportunities for capital are yet excellent. Climate mild, agreeable and healthful, some little malaria in lowlands. Temperature softened by ocean. Winter averages 37 deg. summer 78 deg. Rainfall 42 inches. Chief Cities, census of 1890, Baltimore, port of entry, pop. 433,547; Annapolis, capital, contains United States Naval Academy, 7,625; Cumberland, 10,030; Hagerstown, 11,698; Frederick, 9,621. Chief industries, agriculture and fruit-growing, oyster and other fishing, canning, coal, iron and copper mining, manufacturers of cotton goods, etc.

Salaries of State Officers.

☐Governor $4,500, Secretary of state $2,000, Treasurer $2,500, Comptroller $2,500, Attorney General $3,000, Chief Justice $3,560, Seven Associate Justices $3,500, District Judge $4,000, Senators and Representatives $5 per day and mileage, two collectors internal revenue $2,625 to $4,500, Collector of Customs $7,000, two collectors $250 and $1,200 fees, Auditor $2,500, Naval Officer $5,000, Surveyor $4,500.


MAP OF MARYLAND
CITY OF WASHINGTON
DISTRICT OF COLUMBIA
WASHINGTON
ANNAPOLIS
Baltimore
Delaware Bay
Potomac River
VIRGINIA
Dover
Easton
Cambridge
Salisbury
Frederick
Hagerstown
Rockville
Upper Marlborough
Leesburgh
B
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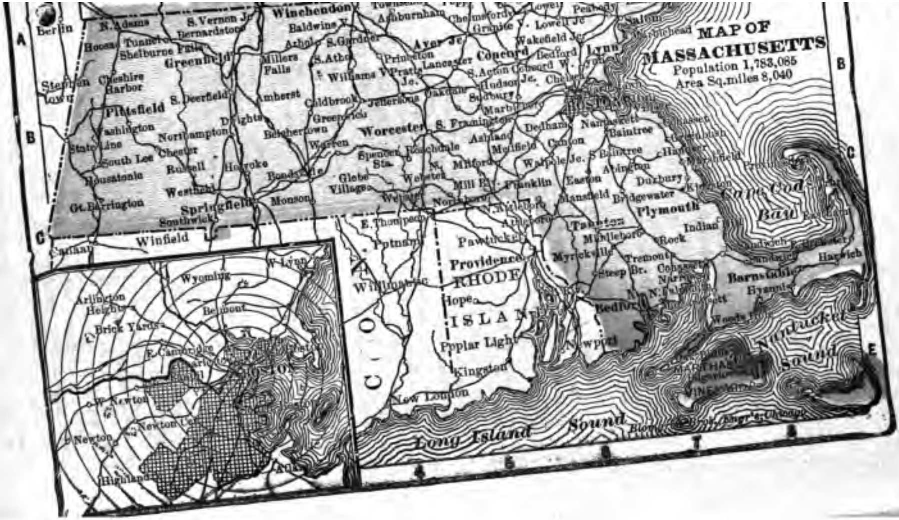
MASSACHUSETTS.

"Old Bay State," one of the thirteen original states. First settlement 1602, abandoned the same year. Explored 1614 by Capt. John Smith. First permanent settlement 1620. Pilgrims landed on Plymouth Rock Dec. 22. Boston settled 1630. First American newspaper, Boston, 1690. Massachussetts was active in bringing on Revolution. Boston massacre, March 5, 1770. Destruction of tea Dec. 16, 1773. Boston Port Bill passed March, 1774. Battle of Lexington, first blood of revolution. Ratified U. S. constitution Feb. 6, 1788. Union soldiers 146,730, besides sailors. Number counties 14. Miles railroad 2,083. All elections Tuesday after first Monday in Nov. Number senators 40, representatives 240, meeting first Wednesday in Jan. Yearly terms of senators and representatives 1 year. Number electoral votes 14, congressmen 12. Paupers, persons under guardians, non-taxpayers and men unable to read and write excluded from voting. School system excellent, attendance compulsory, age 5-15 years. Seven colleges, including Harvard. Legal interest 6 per cent, by contract any rate. Population—Census of 1890, 2,238,943. Females outnumber males. Indians 369. Length, N.-E. to S.-W., 162 miles: breadth 47 miles in western and 100 in eastern part; area of 8,040 square miles, 5,045,600 acres. Coast extensive and irregular with numerous good harbors. The Merrimac only large stream entering sea within the state. The Taconic and Hoosac ridges traverse the state at the west. Saddle Mountain, 3,600 feet, the highest peak. The east and northeast divisions are hilly and broken, and the southeast low and sandy. Scenery very beautiful, especially in Berkshire hills. Soil generally light. Hay best crop. Wheat, oats, corn and vegetables grown. Forests practically exhausted. Cleared land averages $80 and woodland $45 per acre. Stone is found. No minerals mined. Elizabeth Islands, Martha's Vineyard, Nantucket and smaller islands to the south belong to the state. Winters severe and protracted, summers short and warm. Thermometer ranges from 10 deg. below to 100 deg.; averages, summer 73 deg., winter 24 deg. Snow falls October to April. Rainfall, including snow, 44 inches. Chief industries, agriculture and kindred callings, fishing for cod and mackarel (half the fishing vessels of the Union owned here), manufacture of cotton, woollen, worsted, silk, iron and steel goods, soap and implements, quarrying. Principal Cities: Census of 1890—Boston, 446,507; Lowell, 77,605; Lawrence and Fall River, famous for cotton manufactures, 44,559 and 74,351; Worcester, railroad and manufacturing center, 84,536; Cambridge, seat of Harvard College, 69,837; *Lynn*, famous for manufacture of boots and shoes, 55.684; *New Bedford*, greatest whaling port in the world, 40,705; *Springfield*, contains greatest arsenal in the United States, 44,164. *Ports* of entry 9.

(Salaries State Officers, page 439.)


MAP OF
MASSACHUSETTS
Population 1,783,085
Area Sq.miles 8,040
Cape Cod Bay
Nantucket Sound
Long Island Sound
RHODE ISLAND
Boston
Worcester
Springfield
Pittsfield
Greenfield
Plymouth
Taunton
Providence
Barnstable
Winchendon
Concord
Lynn
Salem
Ayer Jc.
Amherst
Northampton
Holyoke
Westfield
Monson
Gt.Barrington
N.Adams
Winfield
Pawtucket
New London
Kingston
Poplar Light
Newport
Bedford
Hyannis
Harwich
Brick Yards
Arlington Heights
Belmont
Wyoming
W.Lynn
E.Cambridge
W.Newton
Newton Cen.
Newton
Highlands
A
B
C
E
4
5
6
7
8

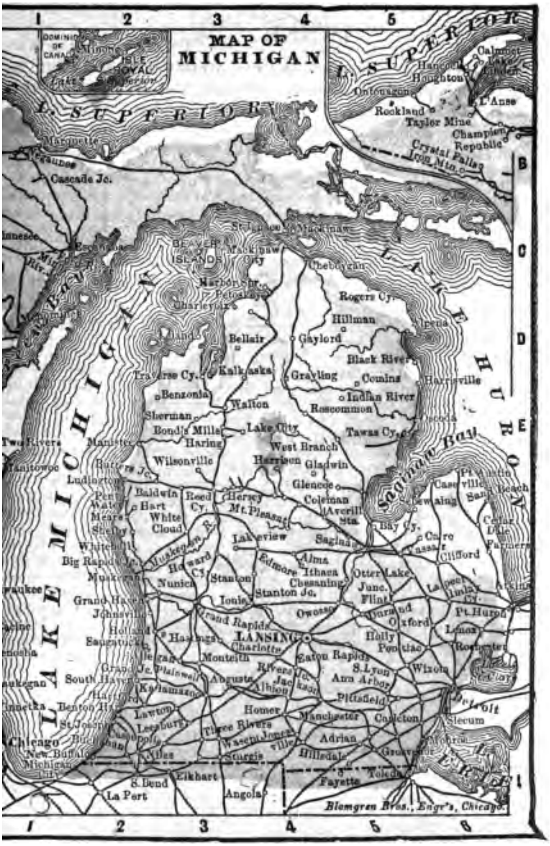
MICHIGAN.

Called "Wolverine State." First settlement by Father Marquette, 1668, at Sault Ste. Marie. Admitted as state Jan. 26, 1837. Thirteenth state to enter Union. Received upper peninsula as compensation for disputed territory same year. Capital, Lansing. Union soldiers furnished 87,364. Number counties 79. Miles railroad 6,918. All elections Tuesday after first Monday in November. Number senators 32, representatives 100, sessions of legislature biennial, in odd-numbered years, meeting first Wednesday in January; terms of senators and representatives 2 years each, number electoral votes 13, number congressmen 11. Duelists excluded from voting. Number colleges 9, efficient public schools, school age 5–20 years. Legal interest 7 per cent, by contract 10 per cent, usury forfeits excess of interest. POPULATION, census of 1890, 2,093,889. Extreme length lower peninsula north and south 278 miles, breadth 260 miles. Extreme length upper peninsula east and west 320 miles, width 24 to 165 miles, area 57,430 sq. miles, or 36,755 200 acres. Length shore line 2,000 miles. Lower peninsula consists of plains and table lands, heavily timbered with pine and hardwoods and small prairies. Soil generally good, but patches of sand occur. Fruit raising, especially apples, peaches and grapes, very successful. All cereals make good crop, except corn at north. Staples, wheat, corn, oats, buckwheat, potatoes, barley, etc. Upper peninsula broken, rocky and almost mountainous, rising at west to 2,000 feet above sea. Western portion mining region; eastern portion favorable to agriculture. Rivers, inlets and small lakes numerous. Water good and well distributed. Copper, valuable iron, coal and salt abundant. Timber yet in immense tracts of virgin pine and hardwoods. State ranks first in copper, lumber and salt, second in iron ore, third in buckwheat, fifth in sheep, hops and potatoes. Cleared land averages $20 per acre, forest $10. CLIMATE.—Temperature averages at Detroit winter 30 deg., summer 70 deg.; at Sault Ste. Marie, winter 23 deg., summer 65 deg. Rainfall at Detroit 30 inches, at Sault Ste. Marie 24 inches. Health excellent. Temperature at Marquette averages about 3 deg., lower than at Sault Ste. Marie.

CHIEF CITIES, CENSUS OF 1890.—Detroit, 205,669; Grand Rapids, 64,147: Lansing (capital), 12.630; Bay City, 27,826; East Saginaw, 46,137; Jackson, 20,779; Muskegon. 22,668: Saginaw, 46,215; Alpena, 11,228: Battle Creek, 13,090; Flint, 9,845; Kalamazoo, 17,857: Menominee, 10,606; Port Huron. 13,519; West Bay City, 12,910. Detroit, Marquette, Port Huron, Grand Haven ports of entry.

CHIEF INDUSTRIES.—Lumbering, mining, farming, fruit raising manufacturing, fishing, etc.

(Salaries State Officers, page 439.)


MAP OF MICHIGAN
1
2
3
4
5
6
B
C
D
E
DOMINION OF CANADA
ISLE ROYAL
Lake Superior
L. SUPERIOR
L. SUPERIOR
Calumet
Lake Linden
Hancock
Houghton
Ontonagon
L'Anse
Rockland
Taylor Mine
Champion
Republic
Crystal Falls
Iron Mtn.
Marquette
Ishpeming
Cascade Jc.
Escanaba
Menominee
St. Ignace
Mackinaw
BEAVER ISLANDS
Mackinaw City
Cheboygan
Harbor Spr.
Petoskey
Charlevoix
Rogers Cy.
Hillman
Alpena
Bellair
Gaylord
Black River
LAKE HURON
Traverse Cy.
Kalkaska
Grayling
Comins
Harrisville
Benzonia
Indian River
Walton
Roscommon
Sherman
Bond's Mills
Lake City
Oscoda
Haring
Tawas Cy.
Two Rivers
Manistee
West Branch
Wilsonville
Harrison
Gladwin
Saginaw Bay
Manitowoc
Butters Jc.
Ludington
Glencoe
Pt. Austin
Caseville
Sand Beach
Baldwin
Reed Cy.
Hersey
Coleman
Averill Sta.
Sebewaing
Pentwater
Hart
Mt. Pleasant
Mears
White Cloud
Bay Cy.
Cedar Dale
Shelby
Muskegon R.
Lakeview
Saginaw
Cairo
Vassar
Farmers
Whitehall
Howard Cy.
Edmore
Alma
Clifford
Big Rapids
Ithaca
Otter Lake
Muskegon
Nunica
Stanton
Chesaning
Lapeer
Imlay Cy.
Ionia
Stanton Jc.
Flint
Grand Haven
Johnsville
Grand Rapids
Owosso
Durand
Pt. Huron
Oxford
Holland
Hastings
LANSING
Holly
Lenox
Saugatuck
Charlotte
Pontiac
Rochester
Allegan
Monteith
Eaton Rapids
Grand Jc.
Plainwell
Augusta
Rivers Jc.
S. Lyon
Wixom
South Haven
Kalamazoo
Albion
Jackson
Ann Arbor
Hartford
Pittsfield
Benton Har.
Lawton
Homer
Detroit
St. Joseph
Leesburg
Three Rivers
Manchester
Carleton
Slocum
Chicago
Cassopolis
Wasepi
Jonesville
Adrian
Monroe
New Buffalo
Niles
Sturgis
Hillsdale
Grosvenor
Michigan City
L. ERIE
S. Bend
Elkhart
Fayette
Toledo
La Port
Angola
Kenosha
Racine
Waukegan
Winnetka
LAKE MICHIGAN
Green Bay
Blomgren Bros., Engr's, Chicago.

MINNESOTA.

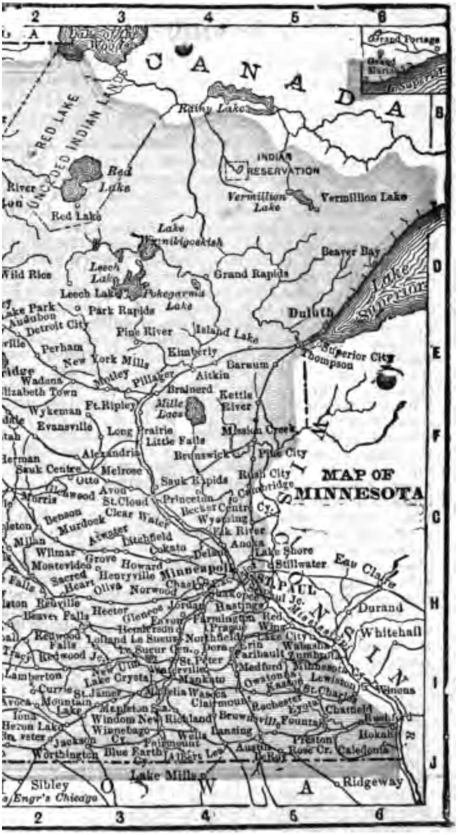
"Gopher state." Explored by Fathers Hennep
1680, via Mississippi river to Falls St. Anthony. A
1858. Foreign immigration immense. Number
furnished, 25,052. Number counties, 80. Miles
All elections Tuesday after first Monday in Nov
senators, 47; representatives, 103; sessions of le
nial, in odd-numbered years, meeting Tuesday a
day in January; holding 60 days; term of senato
resentatives, 2 years. Number electoral votes, 7
5; idiots, insane and convicts not voting. Num
school age, 5–21; school system, first-class. Leg
7%; by contract, 10%; usury forfeits excess ov

Population, census of 1890, 1,301,826; Indians,
N. and S. 378 miles, average width 261 miles, area
50.691,200 acres. Surface rolling plain 1,000 feet a
except at N. E., where are a series of sand hills c
of Land," 1,600 feet high. It is the state of small l
over 7,000, varying from a few rods to 32 miles ac
these, Itasca, the Mississippi rises and flows 800
the state. The other principal rivers are the
River of the North, and the St. Louis. Small str
make water plentiful. The scenery is picturesqu
The soil is splendid, as a rule, and the accessil
and general attractions render the state especi
agriculturists. The forests of the state are s
acres), but in parts are rich in fine timbers Tw
state is unoccupied. Cleared land averages $12.
woodland $8. Wheat is the great crop. Corn, o
and dairy products are also staples. State ranks 1

Climate.—Healthful. Air pure and dry, su
averaging 68–70 deg.; winters cold, averaging 9
fall, 36 inches, chiefly in summer. Snowfall me
ness mitigates the cold in winter. Chief Cit
1890.—Pembina, port of entry on Red river. St
133,156; Minneapolis, 164,738; Duluth, 32,725;
Stillwater, 11,239. Chief Industries.—Agricu
milling, etc.

Salaries of State Officers.

Governor....................................
Lieutenant Governor..........................
Secretary of State...........................
Treasurer....................................
Auditor......................................
Attorney General...........................
Superintendent of Public Instruction..........
Adjutant General...........................
Public Examiner............................
Insurance Commissioner.......................


MAP OF
MINNESOTA
C A N A D A
I O W A
W I S C O N S I N
RED LAKE
UNCEDED INDIAN LANDS
Lake of the Woods
Rainy Lake
INDIAN RESERVATION
Vermillion Lake
Vermillion Lake
Red Lake
Red Lake
Lake Winnibigoshish
Leech Lake
Leech Lake
Pokegama Lake
Grand Rapids
Beaver Bay
Lake Superior
Grand Portage
Grand Marais
Duluth
Superior City
Thompson
Park Rapids
Lake Park
Audubon
Detroit City
Perham
New York Mills
Wadena
Motley
Pillager
Pine River
Island Lake
Kimberly
Aitkin
Darsum
Brainerd
Kettle River
Mille Lacs
Ft. Ripley
Wykeman
Evansville
Long Prairie
Little Falls
Mission Creek
Alexandria
Brunswick
Pine City
Herman
Sauk Centre
Melrose
Otto
Sauk Rapids
Rush City
Cambridge
Glenwood
Avon
Morris
St. Cloud
Princeton
Becker Centre Cy.
Benson
Clear Water
Wyoming
Murdock
Atwater
Litchfield
Elk River
Milan
Willmar
Cokato
Delano
Anoka
Lake Shore
Montevideo
Grove
Howard
Minneapolis
Stillwater
Eau Claire
Sacred Heart
Henryville
Olivia
Norwood
Chaska
ST. PAUL
Shakopee
St. Paul Jc.
Renville
Hector
Glencoe
Jordan
Hastings
Durand
Beaver Falls
Henderson
Farmington
Red Wing
Mississippi
Whitehall
Redwood Falls
Lafayette
Le Sueur
Northfield
Lake City
Wabasha
Tracy
Redwood Jc.
Le Sueur Cen.
Dora
Erin
Faribault
Zumbrota
Lamberton
New Ulm
St. Peter
Waterville
Medford
Minnesota Cy.
Lake Crystal
Mankato
Owatonna
Lewiston
Winona
Currie
St. James
Madelia
Waseca
Kasson
St. Charles
Avoca
Mountain Lake
Madelia Sta.
Clairmount
Rochester
Eyota
Chatfield
Iona
Heron Lake
Windom
New Richland
Brownsville
Fountain
Rushford
Winnebago Cy.
Wells
Lansing
Preston
Hokah
Jackson
Fairmount
Worthington
Blue Earth Cy.
Albert Lea
Austin
Le Roy
Rose Cr.
Caledonia
Lake Mills
Sibley
Ridgeway
Engr's Chicago
Wild Rice
River
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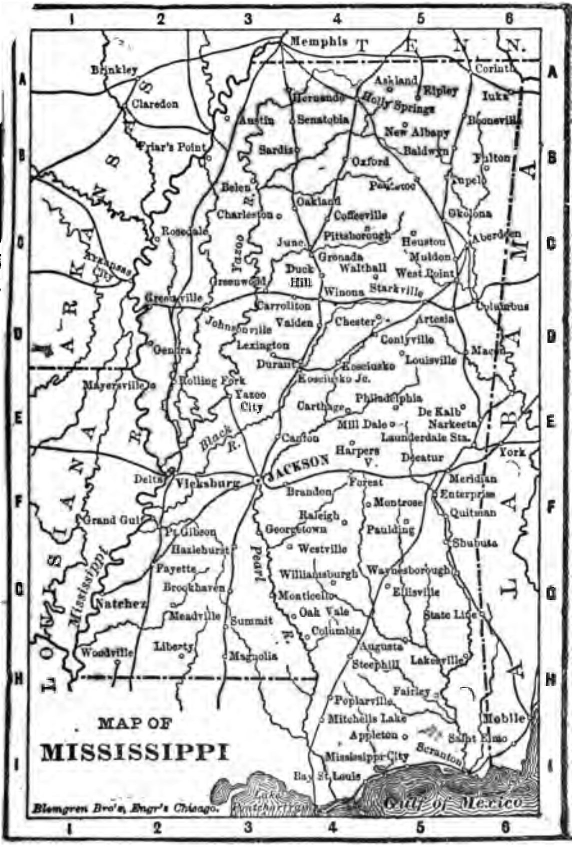
MISSISSIPPI.

Indian name meaning Father of Waters. "Bayou State." Visited by De Soto 1542, by LaSalle 1682. Settled Biloxi, 1699, by M. de Iberville. Formed a part of the territory of Louisiana, and belonged to France. Admitted as a state Dec. 10, 1817. Seventh state admitted. Capital fixed at Jackson, 1822. Shiloh the most notable battle of the rebellion in the state. State re-entered Union 1870. Number counties 74, number miles of railroad 2,397. State officers elected quadrennially, and legislature every two years, all elections Tuesday after first Monday in Nov., sessions of legislature biennial, in even-numbered years, meeting Tuesday after first Monday in Jan., number senators 37, representatives 120, term of senators 4 years, of representatives 2 years, number electoral votes 9, congressmen 7. Idiots, insane and criminals excluded from voting. Number colleges 3, school age 5-21, school system fair. Legal interest 6 per cent, by contract 10 per cent, usury forfeits excess of interest. Miles railroad 1844, 26. Population, census 1890—1,289,600. No. slaves in 1860, 436,631. Greatest length N. and S. 364 miles, average width 143 miles, area 46,340 sq. miles, 29,657,600 acres. Coast line, including islands, 512 miles. Harbors, Biloxi, Mississippi City, Pascagoula and Shieldsburg. Surface undulating with a gradual slope from elevation of 700 feet at N. E., W. and S. to the Mississippi and Gulf. Some hills reach 200 feet above surrounding country. From Tenn. line S. to Vicksburg. Mississippi bottoms wide, flat, with more or less swamp, and covered with cypress and oak. Soil an inexhaustible alluvium. Soil light but productive, at south sandy with pine growth. Cotton prolific. Staple crops, cotton, rice, sugar, molasses, tobacco, corn, sweet potatoes, grapes for wine. Fruits and vegetables are splendid crops, but are neglected. Forest area large, pine, oak, chestnut, walnut and magnolia grow on uplands and bluffs, long-leafed pine on islands and in sand. Lumbering important industry, mules raised with great success. State ranks second in cotton, fifth in rice. Oyster and other fisheries valuable. Cleared land averages $7.50 per acre, woodland $3. Climate mild, snow and ice unknown. Summers long and warm, July and Aug. hottest months. Temperature averages summer 80 deg., winter 50 deg. Rainfall 46 in. at north, 58 in. at south. Highlands very healthy. Malaria in bottoms. CHIEF CITIES, census of 1890—Jackson (capital), 6,041; Natchez, 10,132; Vicksburg, 13,298; Meridian, 10,889; Columbus, 4,552; Yazoo City, 5.247. LEADING INDUSTRIES.—Agriculture, lumbering, fishing and canning.

Salaries of State Officers.

Governor $4,000, Lieutenant Governor $800, Secretary of State *$2,500*, Treasurer $2,500, Auditor $2,500, Attorney General $2,500, *Superintendent* of Public Education $2,000, Commissioner of *Agriculture* $1,000, Land Commissioner $1,000.



MAP OF MISSISSIPPI

Blomgren Bro's, Engr's Chicago.

MISSOURI.

Name Indian, means "Muddy River." Settled first at St. Genevieve. Organized as territory under present name 1812, included Arkansas, Indian Territory, etc. Admitted March, 1821. Eleventh state admitted. Admission aroused much discussion. "Missouri Compromise" effected and state permitted to retain slavery. State divided on secession and was scene of perpetual internal warfare. Martial law declared Aug., 1862. Union soldiers furnished, 109,111. Number counties 115. Miles railroad 5,978. State officers elected quadrennially, and legislature every 2 years. All elections Tuesday after first Monday in Nov., number senators 34, representatives 141, sessions of legislature biennial in odd-numbered years, meeting Wednesday after Jan. 1, holds 70 days, term of senators 4 years, representatives 2 years. Number electoral votes 16, congressmen 14. United States army and inmates of asylums, poorhouses and prisons excluded from voting. Number colleges 17, school age 6–20, school system good, endowment large. Legal interest rate 6 per cent, by contract 10 per cent, usury forfeits entire interest.

Population, census of 1890—2,679,184.

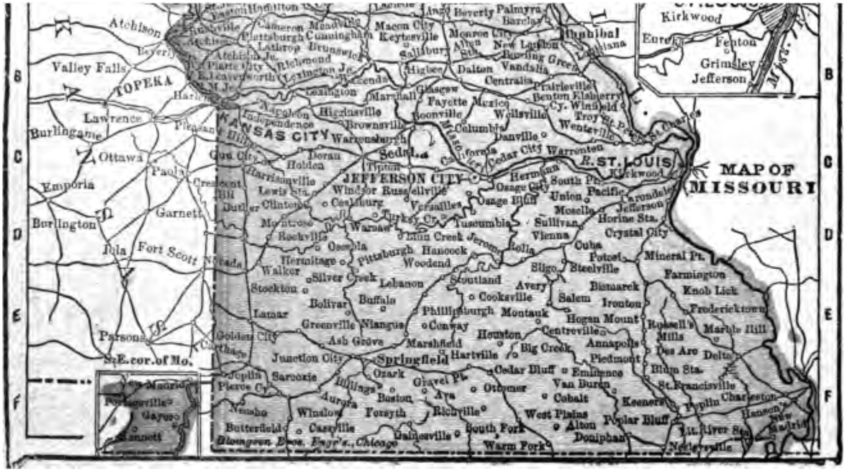
Length N. and S. 575 miles. Average width 246 miles. Area 68,735 sq. miles, 43'990,400 acres. Soil generally good. South the surface is broken with hills, sometimes 1,000 feet high The most noted, Iron Mountain and the Ozarks. West of Ozarks is a prairie region with wide, deep, fertile valleys. Entire area well watered by small streams, springs, etc. Chief crops, corn, wheat, oats, potatoes, tobacco. Fruits do splendidly. Peaches especially fine. Vegetable gardening successful. Improved land averages $12. unimproved $7 per acre. Coal, iron, marble, granite, limestone, lead and copper found in enormous deposits. Lead area 5,000 sq. miles. Forests magnificent. Growth walnut, poplar, oak and the hardwoods, grazing a leading business both in extent and profit. Stock of all kinds raised with success. State ranks first in mules, third in oxen, hogs, corn and copper, fifth in iron ore.

Climate variable, with sudden changes, but generally pleasant and healthy. Summers are long and warm, but not enervating. Winters moderate, with occasional severe days. Average temperature, summer 76 deg., winter 39 deg. Rainfall greatest in May, average 34 inches.

CHIEF CITIES, census of 1890.—St. Louis, largest city west of the Mississippi, port of entry and great commercial and manufacturing point, 460,357. Capital, Jefferson City, 6,732. Pop. *St. Joseph*, 52,811; Kansas City, 132,416; Springfield, 21,842; *Hannibal*, 12,816.

LEADING INDUSTRIES.—Agriculture, mining, manufacturing, *quarrying*, grazing, fruit and vegetable growing, lumbering, etc.

(Salaries of State Officers, page 439.)


MAP OF MISSOURI
KANSAS CITY
JEFFERSON CITY
E. ST. LOUIS
Springfield
Sedalia
Hannibal
TOPEKA
Atchison
Valley Falls
Lawrence
Burlingame
Ottawa
Emporia
Paola
Garnett
Burlington
Iola
Fort Scott
Parsons
S.E.cor.of Mo.
Kirkwood
Eureka
Fenton
Grimsley
Jefferson
Macon City
Keytesville
Boonville
Mexico
Columbia
Warrensburgh
Lexington
Independence
Harrisonville
Clinton
Warsaw
Lebanon
Bolivar
Lamar
Rolla
Salem
Ironton
Farmington
Mineral Pt.
Crystal City
Potosi
Cuba
Steelville
Houston
Hartville
Marshfield
Ozark
Forsyth
Cassville
Neosho
Joplin
Carthage
Golden City
Nevada
Butler
Stockton
Van Buren
West Plains
Alton
Doniphan
Poplar Bluff
Charleston
New Madrid
Kennett
Gayoso
Blomgren Bros. Engr's., Chicago
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MONTANA.

Gold discovered 1860. Formed part of Idaho, organized 1863. Organized as territory May, 1864. Custer massacre June 25. 1876, 350 men of the 7th United States Cavalry annihilated by Sioux under Sitting Bull, on the Little Big Horn river. Number counties 14. Miles of railroad 2,001. All elections Tuesday after first Monday in November. Number senators 12, representatives 24. Sessions of legislature biennial, in odd-numbered years, meeting second Monday in January, holds 60 days, terms of senators and representatives 2 years each. School age 4-21 years, graded schools in Deer Lodge City, Virginia City and Helena. School lands reserved for sale when territory becomes state valuable and extensive. Legal interest 10 per cent, by contract any rate.

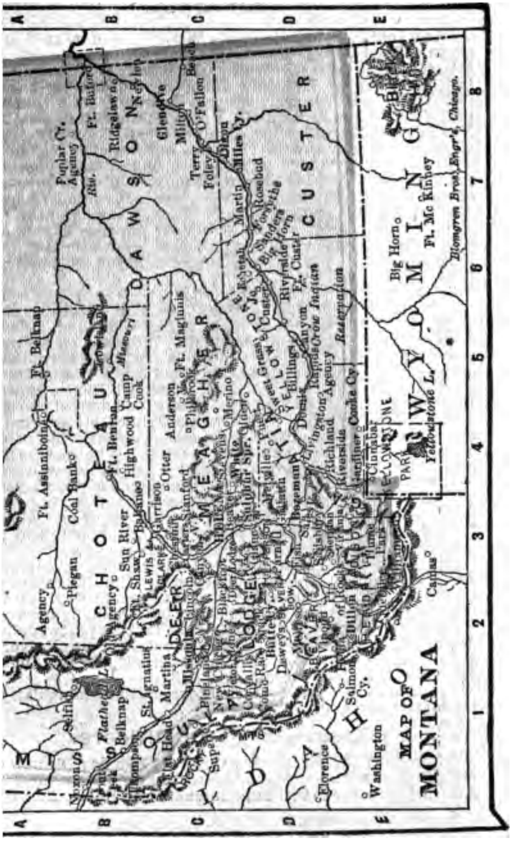
Population.—Census of 1890—132,159. Extreme length E. and W. 540 miles, average width 274 miles, area 145,310 sq. miles, 92.998,400 acres, two-fifths good farm land, of which about 4,000 acres is cultivated. Three-fifths of territory rolling plains, rest mountainous. Surface fairly supplied with small streams. Timber supply ample. Soil good. Immense area of arable land. Wheat best crop, oats, potatoes, hay, also staples. To cold for corn. Area grazing land, over two-thirds territory. Grazing interest great. Splendid grazing grounds yet untaken. Mineral wealth great. Ranks fifth in silver and in gold. Climate dry. Rainfall about 12 inches. Warmer than same latitude farther east. Snows heavy in mountains, light in valleys and on plains. Temperature averages summer 62 deg., winter 18 deg. Colder in mountains. Health excellent.

Chief Cities.—Three United States districts, court held twice a year at Helena, twice at Virginia City, (about) 4.000; and three times at Deer Lodge, pop. 1,500. Helena pop. 13,834, capital and most important town.

Leading Industries.—Mining, lumbering, grazing, agriculture, smelting, etc.

Salaries of Territorial Officers.

Governor	$2,600
Secretary	1,800
Treasurer	1,500
Auditor	1,500
Superintendent of Public Instruction	1,20
Chief Justice	3.00
Two Associate Justices	3,00
Senators and Representatives	$4 per day and 20 cents mileag
Surveyor General	2,5
Chief Clerk	1,8
Chief Draftsman	1,6
Collector of Internal Revenue	2


MAP OF MONTANA
Blomgren Bros. Engr's, Chicago.
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CHOTEAU
DAWSON
CUSTER
MEAGHER
DEER LODGE
YELLOWSTONE
GALLATIN
MISSOULA
LEWIS & CLARKE
BEAVERHEAD
JEFFERSON
MADISON
WYOMING
IDAHO
Ft. Assinaboine
Ft. Belknap
Poplar Cr. Agency
Ft. Buford
Ridgelawn
Newlon
Glendive
Milton
Terry
Foley
O'Fallon
Beach
Dixon
Miles Cy.
Martin
Rosebud
Forsythe
Sanders
Big Horn
Riverside
Ft. Custer
Crow Indian Reservation
Billings
Canyon
Rapids
Agency
Ft. Benton
Highwood
Camp Cook
Missouri
Ft. Maginnis
Anderson
Philbrook
Merino
Otter
Stanford
Sun River
Coal Banks
Plegan
Agency
Ft. Shaw
Great Falls
Martina
St. Ignatius
Flathead L.
Belknap
Thompson
Selish
Horse Plains
Flat Head
Missoula
Superior
Deer Lodge
Butte
Dewey
Helena
White Sulphur Spr.
Livingston
Bozeman
Richland
Riverside
Gardiner
Cooke Cy.
Clark City
Yellowstone Park
Yellowstone L.
Big Horn
Ft. Mc Kinney
Salmon Cy.
Washington
Florence
Challis

NEBRASKA.

Name Indian, means "Shallow Water." Nebraska Territory organized May, 1854. Few settlements till 1864. Idaho cut off March, 1863, and present boundaries fixed. Bill to admit July, 1866, unsigned by President Johnson, and another January, 1867, vetoed. Bill passed over veto February, 1867. Admitted that year. Lincoln capital. Union soldiers furnished, 3,157. Number counties 74. Miles of railroad 1865, 122, 1890, 5,124. All elections Tuesday after first Monday in November, number senators 33, representatives 100, sessions biennial, in odd-numbered years, meeting first Tuesday in January, holding 40 days, terms of senators and representatives 2 years each, number electoral votes 5, number congressmen 3. U. S., army, idiots and convicts excluded from voting. Number colleges 9, school age 5-21, school system superior, school endowments liberal. Legal interest, 7 per cent, by contract 10 per cent, usury forfeits interest and cost.

Population, census of 1890, 1,058 910.

TOPOGRAPHY, AREA, SOIL, PRODUCTS, ETC.—Extreme length E. and W. 424 miles, width 210 miles, area 76,185 sq. miles, 48,755,000 acres. Surface a vast plain, undulating gently, and principally prairie with a few low hills. At extreme northwest are spurs of the Rocky mountains, and Black Hill country begins, general slope from W. to E., Missouri, Platte, Niobrara, Republican and Blue, principal rivers, and are fed by numerous smaller streams. Southern portion of state peculiarly favorable to all kinds of crops, western half magnificent series of pastures and best suited to grazing. Whole eastern two fifths a great natural garden. Corn the great crop; wheat, oats
hay, rye, buckwheat, barley, flax, hemp, apples, plums, grape
berries, staples and flourish. Cattle raising of vast importan
and magnitude. Good herd laws. No important minera
Manufacturing growing wonderfully. Improved land av
ages $9, unimproved $5 and woodland $18 per acre.

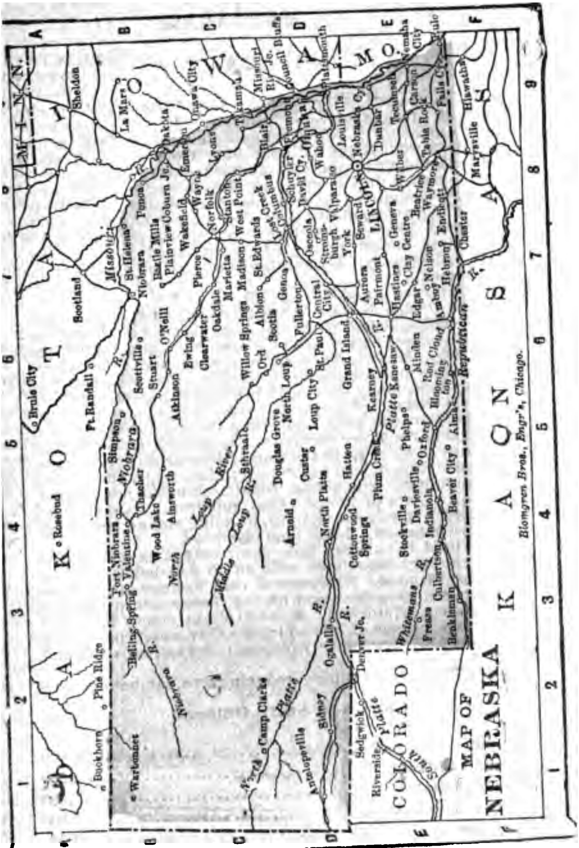
Climate dry, salubrious and free from malaria. Temperat
averages, summer, 73 deg., winter 20 deg. Rainfall east of 1(
meridian, including snow, 25 inches, heaviest in May. At w
precipitation falls to 17 inches. Rainfall gradually increas

CHIEF CITIES, CENSUS OF 1890.—Omaha, U. S. port of deli
commercial center, 139,526; Lincoln contains State Univer
55,491; Plattsmouth, 8,403; Nebraska City, 11,472; Hasting
793; Fremont, 6,654; Columbus, 3,118.

LEADING INDUSTRIES.—Agriculture, cattle-raising, dai
manufacturing, etc.

Salaries of State Officers.

Governor $2,500, Lieutenant-Governor $6 a day, Secre
State $2,000, Treasurer $2,500, Auditor of Public Account
Attorney-General $2,000, Superintendent of Public Ins.



MAP OF NEBRASKA

Blomgren Bros., Engr's, Chicago.

NEVADA.

"Sage Hen State." First settlements in Washoe and Carson valleys 1848. Gold discovered 1849, silver 1859. Territory organized March, 1861. Admitted as state October, 1864. Number counties 15. Miles railroad 916. Governor and state officials elected quadrennially, and legislature every 2 years, on Tuesday after first Monday in November; number senators 20, representatives 40, sessions of legislature biennial, in odd-numbered years, meeting first Monday in January, holding 60 days. Term of senators 4 years, of representatives 2 years. Idiots, insane and convicts excluded from voting. School age 6–18 years. Legal interest rate 10 per cent, by contract any rate.

Population, census of 1890—45,761.

Extreme length N. and S. 485 miles, width 320 miles, area 109,740 sq. miles, 70,223,000 acres. Lake Tahoe, 1,500 feet deep, 10x22 miles in area and 9,000 feet above sea, temperature year round 57 deg. Many mineral springs, warm and cold. Great part of surface unavailable for cultivation. Considerable areas of grazing land; many valleys, rich, easily worked and prolific soil. Corn, wheat, potatoes, oats and barley, staple crops; horses, mules, cattle, hogs and sheep do well. Forests valuable. Mineral resources enormous. Comstock lode supposed to be richest silver mine in the world; Eureka one of the most productive. Rich in lead and copper; zinc, platinum, tin and nickel, plumbago, manganese, cobalt, cinnebar, etc., found. Extensive deposits of borax. Coal and iron. Ranks second in gold, fourth in silver. Kaolin, building stones, slate, soda and salt are obtained. Little land improved.

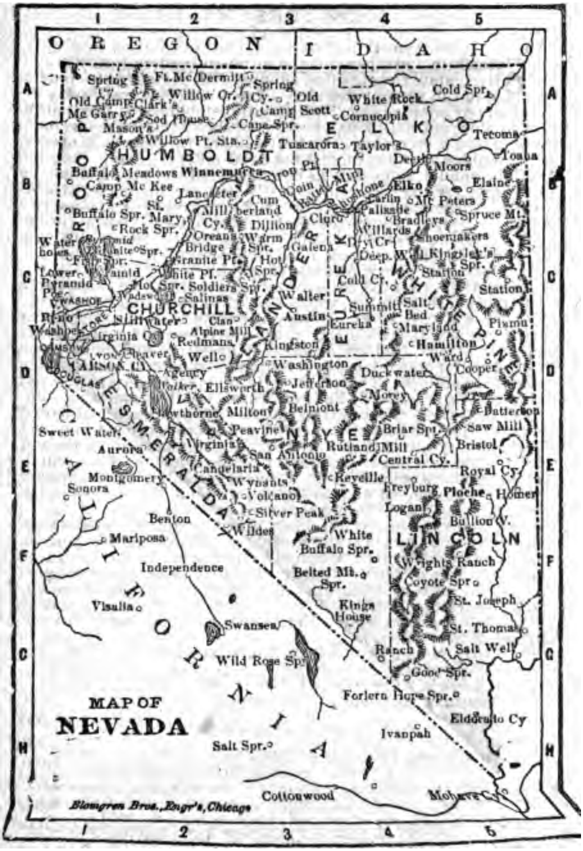
Climate mild in valleys; little snow except on mountains. At north mercury sometimes falls to 15 deg. below zero; air bracing, health good. Extremes of cold unknown. Summer heat occasionally reaches above 100 deg. Temperature averages, summer 71 deg., winter 36 d. Rainfall slight, chiefly in spring.

Chief cities, census of 1890—Virginia City, chief commercial center, pop. 6,377; Carson City (capital), and contains a branch mint, pop. 4,080.

Leading Industries—Mining, reducing ores, lumbering, agriculture, etc.

Salaries of State Officers.

Governor	$5,000
Lieutenant Governor	3,000
Secretary of State	3,000
Treasurer	3,000
Comptroller	3,900
Attorney General	3,000
Superintendent of Public Inst	2,400


MAP OF
NEVADA
Blomgren Bros., Engr's, Chicago
OREGON
IDAHO
CALIFORNIA
HUMBOLDT
ELKO
CHURCHILL
LANDER
EUREKA
WHITE PINE
NYE
ESMERALDA
LINCOLN
ROOP
WASHOE
STOREY
ORMSBY
LYON
DOUGLAS
Spring
Ft. Mc Dermitt
Spring Cy.
Willow Cr.
Old Camp
Clark's
Mc Garry
Sod House
Mason's
Cane Spr.
Willow Pt. Sta.
Old Camp Scott
White Rock
Cornucopia
Cold Spr.
Tecoma
Toana
Tuscarora
Taylor's
Deeth
Moors
Buffalo Meadows
Winnemucca
Camp Mc Kee
Lancaster
Cumberland
St. Mary
Mill Cy.
Dillion
Buffalo Spr.
Rock Spr.
Oreana
Warm Spr.
Bridge
Granite Pt.
Hot Spr.
White Pl.
Hot Spr.
Soldiers Spr.
Wadsworth
Salinas
Water holes
Pyramid
Granite Spr.
Lower Pyramid
Reno
Washoe
Virginia Cy.
Carson Cy.
Stillwater
Clan
Alpine Mill
Redmans
Wells
Agency
Walker
Ellsworth
Hawthorne
Milton
Peavine
Virginia
San Antonio
Candelaria
Wynants
Volcano
Silver Peak
Wildes
Sweet Water
Aurora
Montgomery
Sonora
Benton
Mariposa
Independence
Visalia
Swansea
Wild Rose Spr.
Salt Spr.
Cottonwood
Mohave Cy.
Ivanpah
Forlorn Hope Spr.
Eldorado Cy
Good Spr.
Ranch
Salt Well
St. Thomas
St. Joseph
Coyote Spr.
Wrights Ranch
Bullion V.
Pioche
Homer
Royal Cy.
Logan
Freyburg
Bristol
Saw Mill
Patterson
Belted Mt. Spr.
Kings House
White Buffalo Spr.
Reveille
Rutland Mill
Central Cy.
Briar Spr.
Morey
Duckwater
Belmont
Jefferson
Washington
Kingston
Austin
Walter
Galena
Clure
Eureka
Summit
Salt Bed
Maryland
Hamilton
Ward
Cooper
Pinnu
Station
Elko
Carlin
Palisade
Mt Peters
Elaine
Spruce Mt.
Bradleys
Shoemakers
Willards
Dry Cr.
Deep. Well
Kingsley's Spr.
Station
Cold Cr.
Battle Mt.
Shoshone
Stone House
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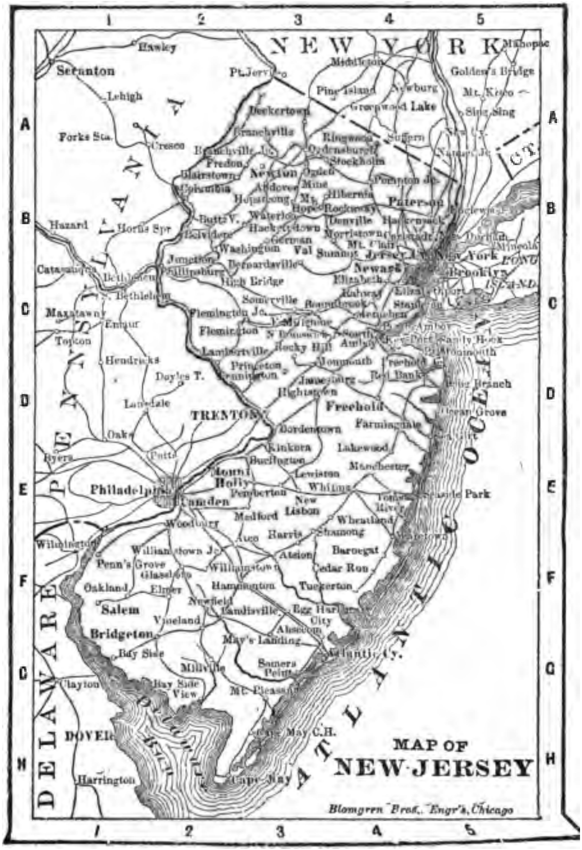
NEW JERSEY

One of the thirteen original states. Battles of Trenton, Princeton, Monmouth and others fought within its borders during the Revolution. State Constitution adopted 1776, revised 1844, and amended in the present decade. United States Constitution ananimously adopted Dec. 1787. Capital established at Trenton 1790. A slave state till 1860, when but 18 slaves remained, and it was counted a free state. Union soldiers furnished, 75,814. State contains 21 counties, and has 1,890 miles railroad. State elections annual, same date as congressional and presidential. Number of senators 21, representatives 60, meeting of legislature 2d Tuesday in January. Term of senators 3 years, representatives 1 year. Number of electoral votes 9, congressmen 7. Paupers, idiots, insane and convicts excluded from voting. Number colleges 4, schools good, school age 5-18. Legal interest 6 per cent, usury forfeits entire interest. Population, census of 1890—1,444,933. Miles of railroad in 1890 2,036. Length north and south 158 miles, width 38 to 70 miles, area 7,455 sq. miles, or 4,771,200 acres. Forty-third state in size. Atlantic coast 128 miles, Delaware Bay coast 118 miles. The famous palisades of the Hudson at the northeast are 600 feet high. Toward center state slopes to a rolling plain, and at south becomes flat and low. Hudson river forms the eastern border. Delaware Water Gap and Falls of Passaic are the natural wonders of the state. Cleared land averages $80 and woodland $60 per acre. Hay the best crop. Other staple crops are potatoes, wheat, corn, rye, buckwheat, cranberries, fruit and garden produce. Little woodland valuable for timber remains. Iron and fertilizing marls are abundant. Climate variable; temperature averages, summer 68 deg. to 75 deg., winter 31 deg. to 38 deg. Range of temperature from about zero to 100 deg. Rainfall, including snow, 46 inches, reaching 50 inches in the highlands, and falling to 40 inches at the south. Highlands and seashore healthy. Ague and malarial fevers in the lowlands. **PRINCIPAL CITIES**, census of 1890.—Newark, Perth Amboy, Great Egg Harbor, Tuckerton, Bridgeton and Lumberton are ports of entry. Newark pop. 181,518; Jersey City 163,987; Trenton (capital) 58,488; Paterson 78,358; Elizabeth 37,670; Hoboken 43,561; Camden 58,274; Atlantic 13,038; Bayonne 18,996; New Brunswick 18,459; Passaic 13,027; Plainfield 11,250; Bridgeton 11,471. **CHIEF INDUSTRIES**.—Manufacture of fabrics, jewelry, clay wares and brick, flour, crystals, fishing, oyster fishing, gardening, agriculture, marl and iron ore digging, etc.

SALARIES OF STATE OFFICERS.

Governor $5,000, Secretary of State $6,000, Treasurer $4,000, *Comptroller* $4,000, Attorney General $7,000, Superintendent of *Public Instruction* $3,000, Adjutant General $1,200, Librarian *$1,500, Chief* Justice $7,500. Eight Associate Justices $7,000, *Chancellor* $10,000, Senators and Representatives $500 a year. *District* Judge $3,500, Superintendent of Life Saving Service *$1,800*, Thirty-nine Keepers $700.



MAP OF
NEW·JERSEY

Blomgren Bros., Engr's, Chicago

NEW MEXICO.

Name supposed to be of Aztec god. Settled earlier than any other part U. S. Permanent settlement, 1596. Santa Fe, then an Indian town, chosen as a seat of Spanish government. The natives were enslaved and forced to work in the fields and mines. Organizad as Territory, 1850. Santa Fe captured by Confederates, 1862, but soon abandoned. Number counties 13. All elections, Tuesday after first Monday in Nov. Number senators 12, representatives 24, sessions of legislature biennial, in even numbered years, meeting first Monday in Jan., held 60 days. Terms of senators and representatives 2 years. School age, 7-18 years. Legal interest rate, 6 per cent, by contract 12 per cent. Miles railroad in 1890, 1,326.

Population, census of 1890.—153,593. Male 64,496, native 111,514, white 108,721, Indians 9,772. Estimated increase. 1885, 21 per cent. Average length N. and S., 368 miles, width 335 miles. Area 122,000 sq. miles, 78,400,000 acres. Elevation 3,000 to 4,000 feet. Mountain peaks 12,000 feet. The staked plain, an elevated region, unwatered and without wood, extends into the southeastern part of the territory. No streams are navigable in the territory. Timber scarce, except in few sections. The mountains are clothed with pine, spruce and fir. Cedar grows in foothills, and cottonwood and sycamore in valleys. Soil rich where water can be had for irrigation or on streams. Corn, wheat, oats, alfalfa, grapes, vegetables, especially onions and root crops and semi-tropical fruits are prolific. Sheep raising very profitable. Grazing interests extensive. Gold found in Grant, Lincoln, Colfax and Bernalillo counties, rich copper mines in Bernalillo county, and in the Pinos Altos region. Zinc, quicksilver, lead, manganese and large deposits of coal have been found. Irrigable surface, 7,000 sq. miles.

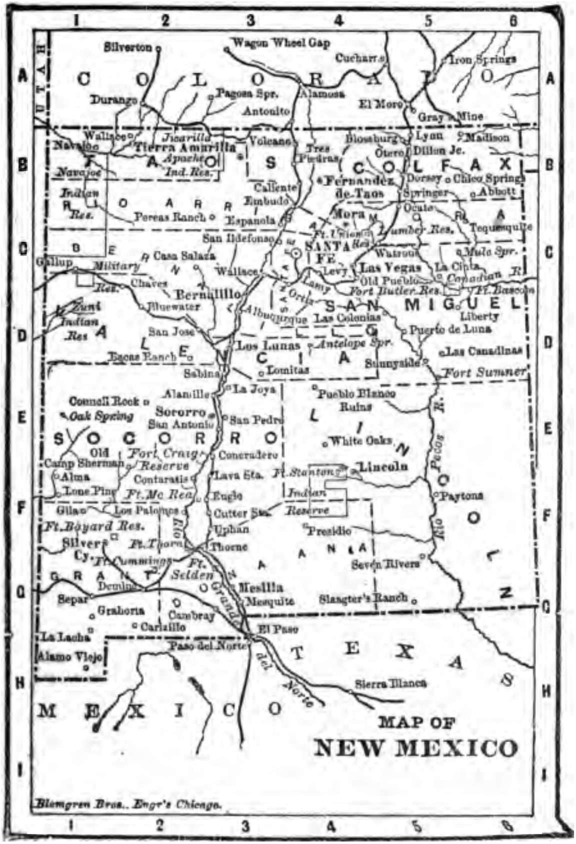
Climate varies with different elevations. Temperature averages, summer, 70 deg., winter, 33 deg. Range of temperature, 4 deg. below zero to 90 deg. above. It is much warmer than the average in the lower altitudes, and colder in the higher. Air dry, rarified and pure. Rainfall, 9 to 11 inches.

Chief Cities.—Santa Fe, capital, pop. 6,713. Las Vegas, Silver City and Albuquerque.

Leading Industries.—Mining, stock-raising and agriculture.

SALARIES OF TERRITORIAL OFFICERS.

Governor	$2,600
Secretary	1,800
Treasurer	1,000
Auditor	1,000
Commissioner of Immigration	900
Librarian	600
Chief Justice	3,000
Two Associate Justices	3,000



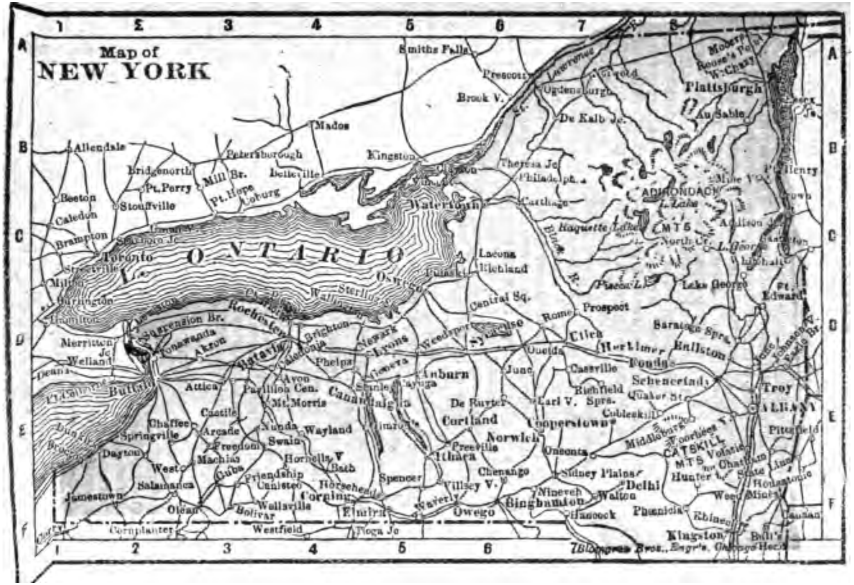
MAP OF
NEW MEXICO

Blomgren Bros., Engr's Chicago.

NEW YORK.

One of the 13 original states, "Empire State." **Explored by** Henry Hudson, Sept., 1609. Samuel de Champlain discovered and named Lake Champlain. Holland owned the territory. The Dutch settled on Manhattan Island, 1614. Country called "New Netherlands." Manhattan Islands purchased from Indians for $24, 1626. Indian troubles 1640-45. Swedish settlements on the Delaware incorporated with the New Netherlands, 1655. England claimed the country as part of Virginia, captured (Manhattan New Amsterdam) Aug., 1664, and named it New York. New York the battle-field of the French-English war 1754, was prominent in the Revolution. West point fortified 1777-78. New York city capital 1784 to 1797. Slavery abolished 1817. Union soldiers furnished, 448,850; number counties 60, custom districts 10, first railroad Albany to Schenectady 1831, miles of railroad 7,709, miles canal 900. State officers elected every 4 and senators (32 in number) every 2 years, representatives (125 in number) yearly, on same day as presidential election. Legislature meets first Tuesday in Feb. yearly, congressmen 34, presidential electors 36. Election betters and bribers and convicts excluded from voting. School system superior, includes 28 colleges. School age 5 to 21 years. Legal interest 6 per cent, usury forfeits principal and interest. Population, census of 1890—5,997,853. Extreme length E. and W. 410 miles, extreme width 311 miles, area 47,620 sq. miles, 30,476,800 acres, water frontage 900 miles, surface varied. The Hudson rising in the Adirondacks, and flowing south over 300 miles to New York bay, is the chief stream. The Allegheny and its tributaries drain the S. W., and the Susquehanna the southern central division. The Mohawk is the chief affluent of the Hudson. The state is noted for the beauty of its lakes. Long, Manhattan and Staten Islands form important divisions of the state. The soil is also varied, and agriculturally the state is very rich. Cleared land averages $60 and wooded $40 per acre. Considerable forests yet remain. The production of corn, wheat and dairy products is very large. The state ranks first in value of manufactures, soap, printing and publishing, hops, hay, potatoes, buckwheat and milch cows, second in salt, silk goods, malt and distilled liquors, miles railway and barley, third in agricultural implements, iron ore, iron and steel, oats and rye. Climate diverse, mean annual temperature for the state 47 deg. In the Adirondacks the annual mean is 39 deg., in the extreme south it is 50 deg., average rainfall 43 in. including snow, the fall being greatest in the lower Hudson valley, and smallest (32 in.) in the St. Lawrence valley. Range of temperature 10 deg. below to 100 above zero. CHIEF CITIES, census of 1890—*New York City*, pop. 1,513,501; Brooklyn 804,377; Buffalo *"Queen City* of the Lakes" 254,457; Rochester 138,327; Syra*cuse 87,877*; Albany (capital) 94,640; Troy 60,689; Binghampton *35,093;* Auburn 25,877. CHIEF INDUSTRIES.—Manufacturing of *all kinds*, agriculture, dairying, the trades, etc.

[Salaries State Officers, page 439.]


Map of
NEW YORK
1
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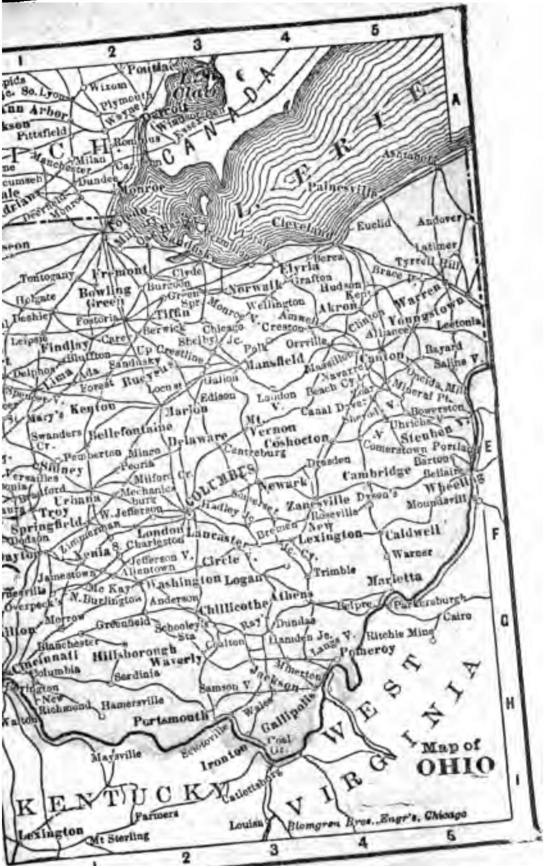
6
7
8
A
B
C
D
E
F
Smiths Falls
Prescott
Brock V.
Ogdensburgh
De Kalb Jc.
Plattsburgh
Au Sable
Rouse's Pt.
W. Chazy
Madoc
Kingston
Allendale
Petersborough
Bridgenorth
Mill Br.
Belleville
Pt. Perry
Pt. Hope
Coburg
Beeton
Stouffville
Caledon
Brampton
Toronto
Streetsville
Milton
Burlington
Hamilton
ONTARIO
L.
Theresa Jc.
Philadelphia
Watertown
Carthage
ADIRONDACK
MTS
Raquette Lake
Black R.
North Cr.
L. George
Whitehall
Lake George
Ft. Edward
Lacona
Richland
Pulaski
Oswego
Sterling
Wallington
Central Sq.
Rome
Prospect
Placid L.
Saratoga Sprs.
Ballston
Suspension Br.
Tonawanda
Akron
Rochester
Brighton
Newark
Lyons
Weedsport
Syracuse
Utica
Herkimer
Fonda
Merritton
Welland
Buffalo
Batavia
Caledonia
Phelps
Geneva
Auburn
Oneida
Canandaigua
Cayuga
June
Cassville
Schenectady
Troy
ALBANY
Attica
Avon
Pavilion Cen.
Mt. Morris
Richfield Sprs.
Earl V.
Quaker St.
De Ruyter
Cortland
Cooperstown
Cobleskill
Castile
Chaffee
Springville
Arcade
Nunda
Wayland
Swain
Freedom
Norwich
Middleburgh
Preeville
Ithaca
Oneonta
CATSKILL
MTS
Pittsfield
Dayton
West
Machias
Cuba
Hornells V.
Bath
Friendship
Canisteo
Horseheads
Corning
Spencer
Chenango
Sidney Plains
Delhi
Hunter
Chatham
State Line
Housatonic
Salamanca
Jamestown
Olean
Wellsville
Bolivar
Elmira
Waverly
Owego
Villsey V.
Binghamton
Nineveh
Walton
Hancock
Phœnicia
Rhinebeck
Kingston
West Mines
Canaan
Cornplanter
Westfield
Tioga Jc.
Blomgren Bros., Engr's, Chicago

OHIO.

"Buckeye State." Explored by LaSalle 1679. Ohio Territory organized May 7, 1800. Admitted as a state April 30, 1803. Number Union soldiers furnished 313,180. Number counties 88. State and congressional elections second Tuesday in October. Number senators 33, representatives 105, sessions biennial, but "adjourned sessions" practically amount to annual meetings; assembles first Monday in January. Terms of senators and representatives 2 years each. Number electoral votes 23. Num-congressmen 21. Insane and idiots excluded from voting. Number colleges 35, school age 6-21, school system first-class. Legal interest rate 6 per cent, by contract 8 per cent, usury forfeits excess. Miles of railroad 7,743. Population, census of 1890.--3,672,316. Extreme length E. and W. 225 miles, breadth 200 miles, area 40,760 sq. miles, 25,686,400 acres. Includes Kelley's and Bass islands in Lake Erie. Lake frontage 230 miles, Ohio river frontage 432 miles. Entire state well watered. Valleys extremely productive. Uplands fertile as a rule. Ohio ranks first in agricultural implements and wool, second in dairy products, petroleum, iron and steel, third in wheat, sheep, coal, malt and distilled liquors, fourth in printing and publishing, salt, miles railway and soap, fifth in milch cows, hogs, horses, hay, tobacco and iron ore. Coal, building stones, iron ore and salt are found in vast quantities. Staple crops, wheat, corn, oats, potatoes, tobacco, buckwheat, etc., vegetables, apples, and the hardier fruits. Cleared land averages $45, woodland $40 per acre. Little forest valuable for lumber remains, except in small reserves. Climate as healthful as any in the United States. Warmest on Ohio River. Temperature for state average , winter 35 deg., summer 77 deg., range of temperature 16 deg. below zero to 101 deg. above. Snowfall considerable. Average rainfall, including snow, 42 inches, decreases to 37 in. at north and increases to 47 inches at south. CHIEF CITIES, census of 1890—Cincinnati, "Queen City of the West," 296,309; Cleveland, 261,546; Columbus, capital, 90,398; Dayton, 58,568; Springfield, 32,135; Toledo, 82,652; Lima, 15,970; Canton 26,327. Chillicothe, Zanesville, Toledo, Sandusky, Cleveland and Cincinnati ports of entry. LEADING INDUSTRIES.—Agriculture, dairying, mining, quarrying, iron making, pork packing, manufacturing.

SALARIES OF STATE OFFICERS.

Governor	$4,000
Secretary of State	3,000
Treasurer	3,000
Auditor	3,000
Attorney General	2,000
School Commissioner	2,000
Superintendent of Ins. Department	1,800
Railroad Commissioner	2,000
Secretary Board of Agriculture	1,800


Map of
OHIO
Blomgren Bros., Engr's, Chicago
L. ERIE
CANADA
KENTUCKY
WEST VIRGINIA
L. St. Clair
Detroit
Toledo
Sandusky
Cleveland
Painesville
Ashtabula
Elyria
Akron
Youngstown
Canton
Mansfield
Fremont
Bowling Green
Findlay
Tiffin
Lima
Kenton
Marion
Bucyrus
Bellefontaine
Delaware
Mt. Vernon
Coshocton
Newark
Zanesville
Cambridge
Steubenville
Wheeling
Columbus
Urbana
Springfield
Troy
Sidney
Dayton
Xenia
London
Lancaster
Circleville
Washington
Logan
Chillicothe
Athens
Marietta
Parkersburgh
Caldwell
New Lexington
Hillsborough
Cincinnati
Waverly
Jackson
Pomeroy
Portsmouth
Gallipolis
Ironton
Maysville
Lexington
Mt Sterling
Catlettsburg
Louisa
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OREGON.

Name means "Wild Thyme." Oregon territory organized August, 1848. Indian troubles, 1844, '47 and '54. Oregon admitted as a state 1859. Number counties 25, miles railroad 1,165. State officers elected quadrennially, and legislature every two years; number of senators 30, representatives 60, sessions of legislature biennial in odd-numbered years, meeting first Monday in Jan., holds 40 days, term of senators 4 years, representatives 2 years. Number electoral votes 3, congressmen 1. United States army, idiots, insane, convicts and Chinese not voting. Number of colleges 7, school age 4-20, school system good. Legal interest rate 8 per cent, by contract 10 per cent, usury forfeits principal and interest.

Population—Census 1890, 313,767. Miles of railroad in 1890, 1,414.

Average length E. and W. 362 miles, average width 260 miles, area 94,560 sq. miles, 60,518,400 acres. Two-thirds entire state mountainous, with wide rich valleys. Columbia river 1,300 miles long, navigable 175 miles, full of cascades and runs through entrancing scenery. Soil generally superior. Wheat the best crop, superior in yield and quality; other crops do well, as do also fruits and vegetables, etc. Extremely favorable to cattle and sheep. Rich in minerals, gold in Jackson, Josephine, Baker and Grant counties, copper in Josephine, Douglas and Jackson, iron ore throughout the state, coal along coast range. Timber resources enormous, and but little touched. Salmon fisheries among best in world. Improved land averages $17.50, unimproved $4. Area arable two-fifths state, forest one-sixth state.

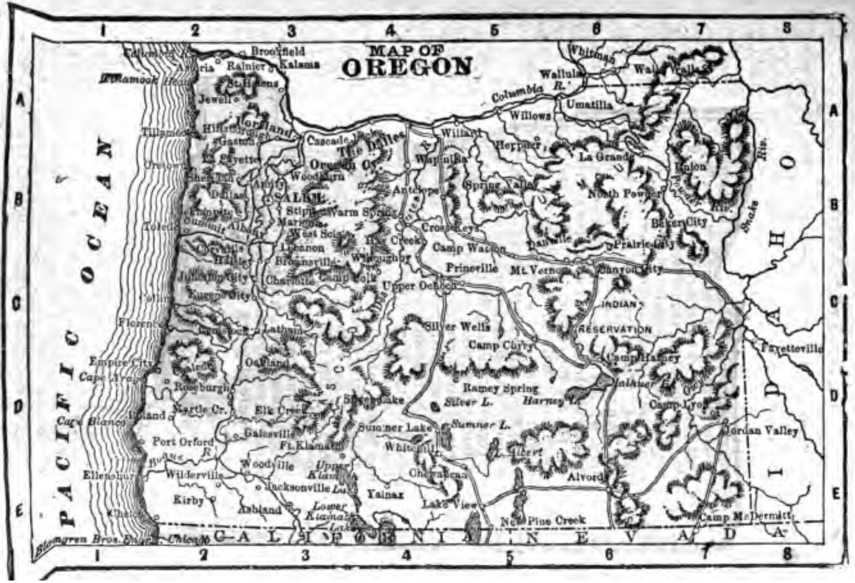
Climate—In western Oregon moist, equable, rainfall 59 inches. In eastern Oregon dry. Both pleasant and healthful, though subject to occasional extremes at east. Crops in east do not suffer, however, from drouth. At west snow and ice unknown, except on peaks, where it is perpetual. Frosts on high lands. Average temperature summer 65 deg., winter 45 d.

Chief Cities—Census of 1890: Portland, Astoria and Coos Bay ports of entry, Rosenburgh, Portland, 47,294: Salem, capital, 4,515; East Portland, 10,481; Astoria, 7,071; Eugene, 3,958.

Leading Industries—Agriculture, grazing, mining, fishing, lumbering, fruit growing, canning, etc.

Salaries of State Officers.

Governor	$1,500
Secretary of State, Auditor and Comptroller	1,500
Treasurer	800
Superintendent of Public Instruction	1,500
State Librarian	500
Chief Justice	2,000
Two Associate Justices	2,000
Senators and Representatives	$3 a day and 15 cents per mile
District Judge	3,500



MAP OF OREGON
PACIFIC OCEAN
Columbia R.
Astoria
Rainier
Kalama
Brookfield
St. Helens
Jewell
Tillamook
Hillsborough
Gaston
Portland
Cascade Locks
The Dalles
Oregon City
Woodburn
Lafayette
Sheridan
Dallas
Amity
SALEM
Stiptons
Warm Springs
Marion
Albany
Toledo
Summit
West Scio
Lebanon
Corvallis
Harrisburg
Brownsville
Junction City
Charlotte
Camp Polk
Eugene City
Florence
Latham
Oakland
Empire City
Cape Arago
Roseburg
Myrtle Cr.
Elk Creek
Cape Blanco
Port Orford
Galesville
Ft. Klamath
Rogue R.
Wilderville
Woodville
Upper Klamath Lake
Jacksonville
Ellensburg
Kirby
Ashland
Lower Klamath Lake
Chetco
Willows
Umatilla
Wallula
Whitman
Walla Walla
Willard
Heppner
Wapinitia
Antelope
Spring Valley
La Grande
Union
North Powder
Powder Riv.
Snake Riv.
Baker City
Cross Keys
Hay Creek
Camp Watson
Willoughby
Danville
Prairie City
Prineville
Mt. Vernon
Canyon City
Upper Ochoco
INDIAN RESERVATION
Silver Wells
Camp Curry
Camp Harney
Malheur
Ramey Spring
Silver L.
Harney L.
Camp Lyon
Sheep Rock Lake
Summer Lake
Summer L.
Whitehill
Albert
Jordan Valley
Fayetteville
Chewaucan
Alvord
Yainax
Lake View
New Pine Creek
Camp McDermitt
IDAHO
CALIFORNIA
NEVADA
Blomgren Bros. Engr. Chicago
1 2 3 4 5 6 7 8
A B C D E

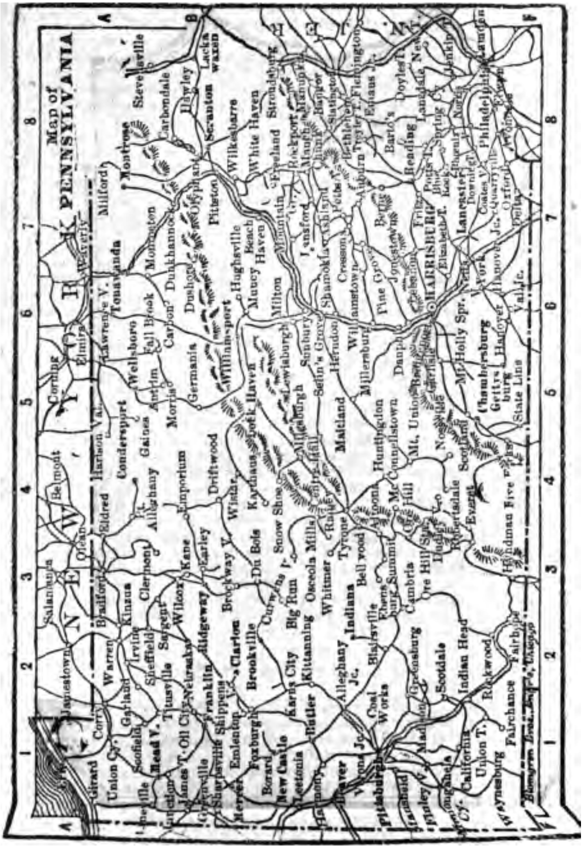
PENNSYLVANIA.

One of the thirteen original states, named for Wm. Penn, the "Keystone State." State invaded three times by confederates, 1862, 1863, when battle of Gettysburg was fought, and 1864, when Chambersburg was destroyed. Union soldiers furnished 337,930. Number counties 67, miles railroad, 8,423. State elections annual, same date as presidential. Number senators 50, representatives 201, sessions biennial, meeting first Tuesday in Jan., hold 150 days, term of senators 4 years, representatives 2 years, number electoral votes 30, congressmen 28. Non-taxpayers and bribers excluded from voting. Number colleges 26, school age, 6-21, school system good. Legal interest 6 per cent. Usury forfeits excess of interest. Population.—Census of 1890, 5,258,014. Topography, Area, Soil, Products, Etc.—Length east and west 300 miles, width 176 miles, area 44,985 sq. miles, 28,790,400 acres. Surface very diverse. Level at the southeast, hilly and mountainous toward the center, and rolling and broken at the west and southwest. Soil varies from barren hills to sections of great fertility. Many superb farms. Cleared land averages $45, woodland $30 per acre. Much good timber remains. Farms average 100 acres. Oil, coal (anthracite at east, bituminous at west), iron, copper, kaolin, building stones, salt abound. Rye, corn, wheat, buckwheat, potatoes, vegetables, hay, oats, tobacco are staple crops. Dairying and stock flourish. Climate in mountains severe in winter, with much snow, summers pleasant. Summers hot on the Delaware reaching 100 deg. Summers long in Susquehanna valley. West of mountains summers hot and of moderate length, winters cold. Average winter temperature 34 deg., summer 74 deg., rainfall including snow averages 42 inches Climate healthy. Chief Cities.—Census of 1890, Philadelphia contains mint and navy yard, 1.046,252; Pittsburg, extensive manufacturing city, 238.473: Harrisburg, capital, 40.164; Alleghany, 104,967; Erie, 39,699; Scranton, 83,450; Lancaster, 32,090. Philadelphia, Pittsburg and Erie are ports of entry. Industries.—Pennsylvania is the great iron oil and coal state. The other industries include agriculture and kindred pursuits, lumbering, manufacture of paper, woolens, liquors, implements, machinery, etc.

Salaries of State Officers.

Governor	$10.000
Lieutenant Governor	3.000
Secretary of State	4,000
Treasurer	5,000
Auditor General	3,000
Attorney General	3,500
Chief Justice	8,500
Six Associate Justices	8,000

Senators and Representatives, $1,000 for 100 days; $10 per day; mileage 5 cents.


Map of
PENNSYLVANIA
NEW YORK
NEW JERSEY
Erie
Warren
Bradford
Olean
Elmira
Corning
Towanda
Montrose
Carbondale
Scranton
Wilkesbarre
Pittston
Williamsport
Lock Haven
Bellefonte
Sunbury
Tyrone
Altoona
Huntingdon
Harrisburg
Reading
Lancaster
Philadelphia
York
Chambersburg
Gettysburg
Bethlehem
Allentown
Pittsburgh
Butler
Kittanning
New Castle
Franklin
Oil City
Titusville
Greensburg
Johnstown
Indiana
Du Bois
Emporium
Kane
Ridgway
Clarion
Brookville
Uniontown
Waynesburg
State Line
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A
B
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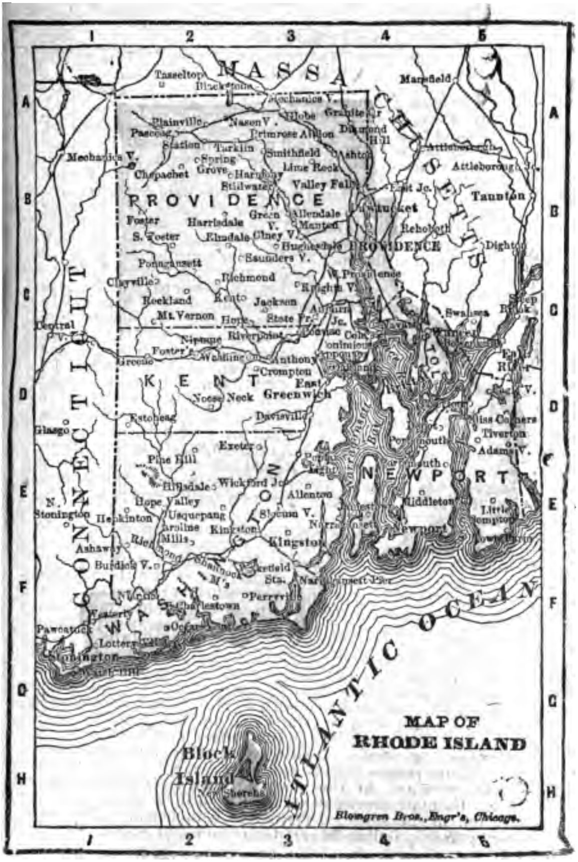
F
Blomgren Bros. Eng's, Chicago

RHODE ISLAND.

One of the 13 original states. Called "Little Rhody." First settled at Providence, 1636, by Roger Williams. Island of Acquidneck (Rhode Island) bought from Indians, 1638, and Newport and Portsmouth founded. Lands of Narragansett Indians acquired by purchase, 1709. R. I. seamen distinguish themselves in the Anglo-French wars, 1750 to 1763, and in the Revolution. Union soldiers furnished, 23,236. Number counties, 5. Miles railroad, 212. State elections first Wednesday in April. Elects 72 representatives, 34 senators, 3 congressmen and 4 presidential electors. Legislature meets annually on last Tuesday in May, at Newport, and holds adjourned sessions annually at Providence. Terms of senators and representatives one year. Persons without property to the value of $134 excluded from voting. Brown's University at Providence founded 1764. Common school system excellent. School age 5-15. Legal interest rate 6 per cent, by contract any rate. Population, census of 1890, 345,506. Area 1,088 sq. miles, or 696,320 acres. Length N. and S. 46 miles, width 40 miles. Narragansett bay divides the state unequally, the western and larger part extending N. from the ocean some 27 miles. The bay is 3 to 12 miles wide, and contains several islands, of which Acquidneck, Canonicut and Prudence are largest. Block Island, at the western entrance of the bay, also belongs to this state. Surface of state broken and hilly. Small rivers unfit for navigation are numerous, and afford valuable water powers. Chief rivers: Pawtucket and Pawtuxet, entering Narragansett Bay, and Pawcatuck, falling into Long Island Sound. The state contains numerous small lakes, some of great beauty. Scenery varied and pretty. Soil middling quality. Hay best crop. Potatoes, corn and oats are the next most important products. No forests. Dairying profitable. Land high-priced. No minerals mined. Climate, owing to nearness to sea, moderate. Average temperature—winter 24 to 42 deg., summer 44 to 74 deg. Rainfall 43 inches Snow lies 60 to 100 days. Health good. CHIEF INDUSTRIES.—Manufacture of fabrics of cotton, flax, linen, wool, boots and shoes, rubber goods, metals, jewelry, etc., agriculture, dairying. Rhode Island, in proportion to size, is the largest manufacturing state in Union. PRINCIPAL CITIES.—Census of 1890.—Providence, capital and seaport, 132,043. Newport, capital, seaport finest in the world, and great pleasure resort, 19,449. Bristol, seaport, 5,475. Warren, seaport. Pawtucket, 27,702. Woonsocket, 20,759. Westerly, 6,333.

Salaries of State Officers.

Governor, $1,000; Lieutenant-Governor, $500; Secretary of State, $2,500; General Treasurer, $2,500; State Auditor, Insurance Commissioner, $2,500; Railroad Commissioner, $500; Attorney General, $2,500; Adjutant General, $600: Commissioner Public Schools, $2,500; Chief Justice, $4,500; Four Associate Justices, $4,000: Senators and Representatives, $1 per day, mileage 8 cents; District Judge, $3,500; Appraiser of Customs, $3,000.



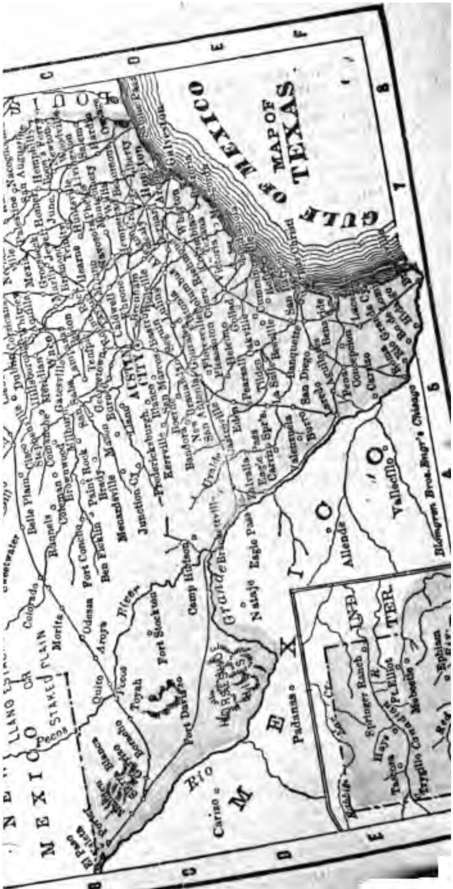
MAP OF RHODE ISLAND

Blomgren Bros., Engr's, Chicago.

TEXAS.

"Lone Star State." Settled first by French under LaSalle 1685, was a part of Old Mexico. Independence declared Dec. 20, 1835. Houston inaugurated as president Oct. 1836. Independence of the republic recognized by United States March, 1837, by European powers 1839 and '40. Continued wars with Mexico, embarrassed finances. Proposition for union with United States 1845, and admitted as a state Dec. 29. State paid $10,000,000 by United States for all lands outside present limits 1850. Seceded Feb. 1861. Houston, who refused to secede, deposed. Military operations small. Last battle of the war near Rio Grande May 13, 1865. Re-entered Union 1870. Number counties 228, miles of railroad 8,498. All elections Tuesday after first Monday in Nov., number senators 31, representatives 106, sessions of legislature biennial in odd-numbered years, meeting second Tuesday in Jan., holds 60 days, term of senators 4 years, of representatives 2 years. Number electoral votes 13, congressmen 11. United States army, lunatics, idiots, paupers and convicts excluded from voting. Number colleges 10, school age 8-14. School endowment enormous, includes 23,470,377 acres yet unsold. Legal interest 8 per cent, by contract 12 per cent, usury forfeits entire interest. POPULATION, census of 1890—2,235,523. TOPOGRAPHY, AREA, SOIL, PRODUCTS, ETC.—Extreme length E. and W. 830 miles, extreme width 750 miles, area 167,865,600 acres, largest of the states and territories. Coast line 412 miles, Galveston bay largest, has 13 feet of water 35 miles inland. Rio Grande (navigable 440 miles). Lands extremely fertile, except in the N. W., where water is scarce. Lands on Rio Grande and at south require irrigation for good results, although crops will grow to some extent without. Entire state covered with rich grasses, affording pasture the year round. All cereals, root crops, vegetables, fruit and stocks flourish. Cotton best crop. Other staples, sugar, molasses, sweet potatoes, corn, wheat, grapes and fruits. Dairying extensive. Cattle, sheep, goat and hog raising on mammoth scale. Cotton picking July to Dec., corn planting middle of Feb., grain harvest May, corn harvest July. Ranks first in cattle and cotton, second in sugar, sheep, mules and horses. Coal area 6,000 sq. miles, quality good. Iron ore and salt deposits extensive. Other minerals found but extent unknown. Improved land averages $8, and unimproved $3 to $4 per acre. Uncultivated and timber land seven-eighths of area, timber area one-fourth. CLIMATE varies, temperate at North, semi-tropical at south. Health everywhere most excellent. Thermometer ranges from 35 to 98 deg., but seldom rises to the latter temperature. At Austin averages winter 56 deg., summer *80 deg.* Rainfall averages at Austin 35 inches, increases on *coast and* to the south, decreases to 13 inches in N. W. San *Antonio,* 38,681; Dallas, 38,140; Galveston, 29,118; Fort Worth, *20.725.*

[Salaries State Officers, page 439.]


MAP OF TEXAS
GULF OF MEXICO
AUSTIN CITY
Galveston
Houston
San Antonio
Rio Grande
MEXICO
NEW MEXICO
LLANO ESTACADO OR STAKED PLAIN
Pecos
El Paso
Blomgren Bros. Engr's Chicago

UTAH.

Settled 1848 at Salt Lake by Mormons from Illinois, March, 1849, state of "Deseret" organized. Congress refused to receive constitution adopted. Utah territory organized Sept., 1850. Trouble with government till 1858. Federal officers driven from territory 1856. Number counties 24, miles railroad 1,211. Territorial elections annual, first Monday in August. Number senators 12, representatives 24, sessions of legislature biennial, in odd-numbered years, meeting second Monday in Jan., holds 60 days. Terms of senators and representatives 2 years each. School system fair, school age 6–18 years, number colleges 1. Legal interest 10 per cent, by contract any rate.

Population, census of 1890, 207,905.

Average length 350 miles, width 260 miles, area 82,190 miles, 52,601,600 acres. Surface rugged and broken, with some rich valleys. Traversed by Wahsatch, Uintah, Roan, Little, Sierra Lasal, Sierra Abajo, San Juan, Sierra-Panoches and Tushar mountains. Southeast portion elevated plateaux, western portion disconnected ridges. Great Salt Lake is 130 sq. miles in area. In N. W. a large area of desert land. Soil in valleys very productive. Yield fine crops of cereals and vegetables. Wheat best crop. Fruits successful. Grazing important interest. Dairying profitable and interest is growing rapidly. Forests sufficient for home purposes. Gold, copper and silver in Wahsatch mountains. Silver predominates. Coal in valley of Weber river. Salt found in large deposits and the lake supply inexhaustible. Territory ranks third in silver.

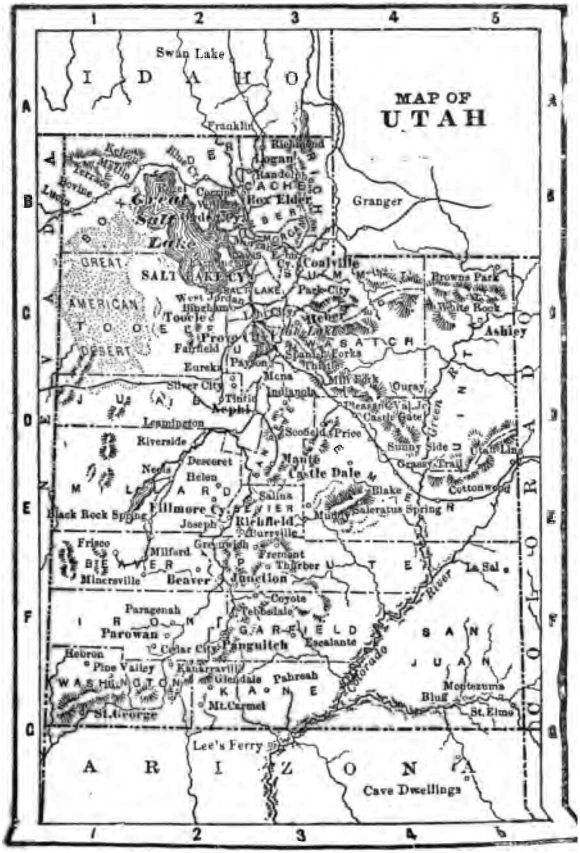
Climate mild and healthy. Warmer W. of Wahsatch mountains. Summers dry and hot in S. W. Rainfall averages 16 inches at S. and 17 at N., chiefly in Oct. and April. Spring opens in April. Cold weather begins late in Nov. In mountains winters severe and snows heavy. Temperature at Salt Lake averages, winter 35 deg., summer 75 deg.

Chief cities—Census of 1890: Salt Lake City, capital, 44,771; Ogden, 18,269; Provo City, 5,153; Logan, 4,624.

Leading Industries—Mining, stock raising and agriculture.

SALARIES OF TERRITORIAL OFFICERS.

Governor	$2,600
Secretary	1,800
Treasurer	600
Auditor	1,500
Superintendent of Public Ins	1,500
Librarian	250
Chief Justice	3,000
Two Associate Justices	3,000
Senators and Representatives	$4 a day, mileage 20 cents


MAP OF
UTAH
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IDAHO
Swan Lake
Franklin
Richmond
Logan
Randolph
CACHE
Box Elder
Corinne
Great Salt Lake
Kelton
Matlin
Terrace
Bovine
Lucin
Ogden Cy.
WEBER
MORGAN
DAVIS
Coalville
SUMMIT
GREAT
SALT LAKE CY.
SALT LAKE
Park City
West Jordan
Bingham
Tooele
TOOELE
AMERICAN
DESERT
Provo City
Heber
WASATCH
Spanish Forks
Fairfield
Eureka
Payson
Thistle
Silver City
Mona
Indianola
Mill Fork
Ouray
Tintic
Nephi
JUAB
Pleasant Val. Jc.
Castle Gate
Leamington
Scofield
Price
Sunny Side
Riverside
Grassy Trail
Utah Line
Deseret
Neels
Manti
Helen
Castle Dale
MILLARD
Blake
Cottonwood
Black Rock Spring
Fillmore Cy.
SEVIER
Salina
Muddy
Saleratus Spring
Joseph
Richfield
Burrville
Frisco
Greenwich
Fremont
BEAVER
Milford
Thurber
UTE
La Sal
Minersville
Beaver
PIUTE
Junction
Coyote
Paragonah
IRON
Tebbsdale
GARFIELD
SAN JUAN
Parowan
Escalante
Cedar City
Panguitch
Hebron
Pine Valley
Kanarraville
Pahreah
WASHINGTON
Glendale
KANE
Montezuma
Bluff
St. George
Mt. Carmel
St. Elmo
Colorado
Green
River
Lee's Ferry
ARIZONA
Cave Dwellings
Granger
Browns Park
White Rock
Ashley
UINTAH
COLORADO
NEVADA

WASHINGTON.

Named for George Washington. First settlement 1845, preceded, however, by Hudson Bay Co.'s trading posts. Organized as territory 1853, and admitted to the Union Nov. 11, 1889. First legislature assembled at Olympia February, 1854. Indian wars 1855 and 1858. Gold discovered 1855. Island San Juan in dispute between United States and England 1859. Rights of the Hudson Bay and Puget Sound Co.'s purchased. Number counties 33. Miles railroad 1,706. All elections Tuesday after first Monday in Nov. Number senators 35, representatives 70, sessions of legislature biennial in odd-numbered years, meeting first Monday in October. Terms of senators and representatives 2 years each. Number colleges 2, school age 4-21 years, school endowment reserved large. Legal interest 10 per cent., by contract any rate.

Population, census of 1890, 349,390.

Topography, Area, Soil, Products, Etc.—Extreme length E. and W. 341 miles, width 242 miles, area 66,880 square miles, 42,803,000 acres. Coast line 200 miles. Columbia river navigable 175 miles. Excellent harbors in Puget Sound, Admiralty Inlet and Hood's canal Scenery, especially on Columbia, grand. Columbia river current overcomes tide at the mouth, and water in the bar drinkable. Cereals flourish but corn not successful. Wheat, oats, hops, fruit of temperate climates, except peaches, are staple. Grazing region entire section east of Cascades, covered with inexhaustible supply of bunch grass. Stock raising and dairying growing industries. Lumber resources unsurpassed. Coal on Bellingham bay and at Seattle, area of coal-bearing strata 20,000 sq. miles. Gold-bearing quartz and silver lodes in Cascade and Coast ranges. Copper, cinnabar, lead and other minerals are found.

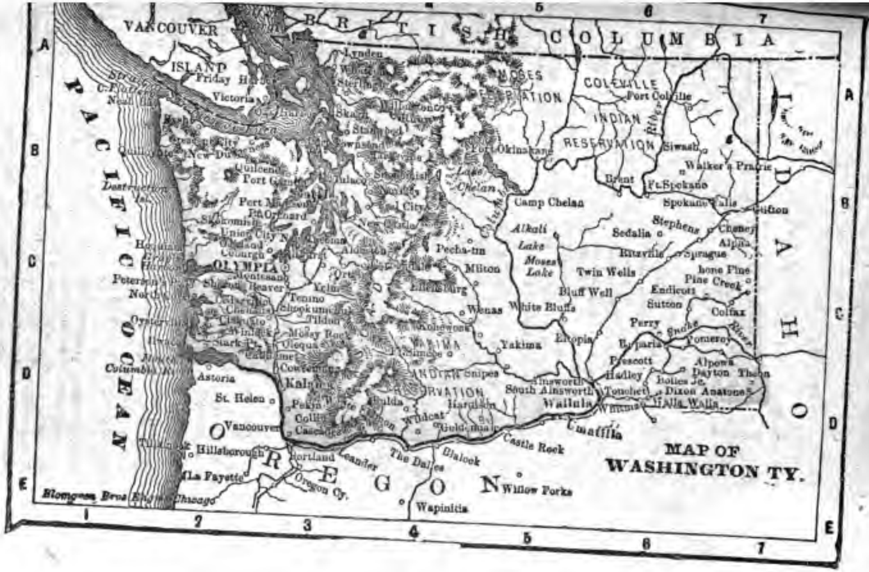
Climate—On coast dry season April to November, rest of year rainy. Rainfall averages at north 96 inches, for entire section 54 inches. Winters mild, little snow or ice. Summers cool with sea breezes. Temperature averages winter 39 deg., summer 61 deg., ranges 30 deg. to 90 deg. Eastern section dry, rainfall 10 inches.

Chief Cities—Census of 1890: Olympia, capital, 4,696; Walla Walla, 7,239; Seattle, 43,914: Tacoma, 35,858; Spokane Falls, 22,626.

Leading Industries—Agriculture, lumbering, grazing, mining, etc.

SALARIES OF TERRITORIAL OFFICERS.

Governor $2,600, Secretary $1,800, Treasurer $1,200, Auditor $1,200, Superintendent of Public Instruction $1,000, Librarian $400, Chief Justice $3,000, three Associate Justices $3,000, Senators and Representatives $4 a day and 20 cents mileage, Surveyor General $2,500, Chief Clerk $1,800, Chief Draftsman $1,700.



MAP OF
WASHINGTON TY.

WISCONSIN.

"Badger State." Settled first by French at Green Bay,
Formed part of northwest territory. Included in Indiana
ritory, 1800. Became part of Michigan territory, 1805. Wis
sin territory organized 1836. Present boundaries fixed
Madison made capital 1838. Admitted as state May
Seventeenth state to join Union. Number Union soldiers
nished 91,327. Number counties 66. Miles railroad 5,478.
elections Tuesday after first Monday in Nov. Number s
tors 33, representatives 100, sessions biennial in odd-numb
years, meeting second Wednesday in Jan., term of senat
years, of representatives 2 years. Number electoral votes
number congressmen 9; insane, idiots, convicts, bribers,
ters and duellists excluded from voting. Number college
number public schools 6,588, school age 4-20 years. Lega
terest 7 per cent, by contract 10 per cent, usury forfeits e
interest.

Population, census of 1890, 1,686,880.

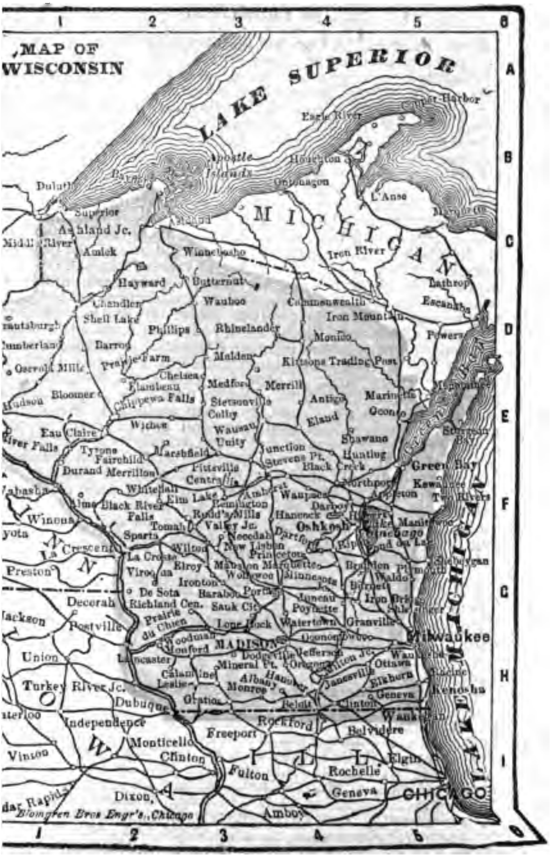
Topography, Area, Soil, Products, Etc.—Extreme lengt
and S. 298 miles, width 260 miles, area 54,450 sq. miles, 34,
000 acres. Besides the great lakes Michigan and Superior
state contains Green Bay, Winnebago, Geneva, Devil's
and innumerable other lakes in the central and northern
tions of the state, of unsurpassed beauty, making the sta
favorite place of summer resort. Much of state prairie,
enormous stretches of magnificent pine and hardwood tim
remain untouched. Soil excellent and adapted to farm
dairying and stock raising. Fruits grow and berries are a
crop. Cranberries largely raised. Wheat the best crop,
buckwheat, hay, corn, oats, staples. Extensive lead min
Grant, Lafayette and Iowa counties, native copper in
north, in Crawford and Iowa counties. Iron ores in Do
Sauk, Jackson and Ashland counties. Ranks second in
third in barley and potatoes, fourth in rye and buckw
fifth in oats and agricultural implements. Improved
averages $18 and unimproved $10 per acre. Much govern
and railroad land yet untaken.

Climate—Temperature averages winter 20 deg., summ
deg., ranges from 32 deg. below zero to 95 deg. Rainf
inches, including snow. Snows heavy, especially at n
spring late, summers short, falls pleasant. Milwaukee
frozen over an average of 105 days in year.

Chief Cities—Census of 1890: Milwaukee, port of entry,
pork-packing and beer-brewing center, grain and wheat
ket, 204,150; Madison capital, 13,392; Eau Claire, 17,438;
du Lac, 11,942; Oshkosh, 22,752; La Crosse, 25,053; Ra
21,022; Superior, 13,000; Sheboygan, 16,341; Janesville,

Leading Industries—Lumbering, farming, mining,
facturing, brewing, pork packing, dairying, etc.

[For salaries of state officers see page 439.]



Blomgren Bros Engr's., Chicago

WYOMING.

First settlement, Ft. Laramie, 1867. Organized as a territory in 1868, and admitted to the Union July 8, 1890. Number counties all elections Tuesday after first Monday in Nov., number senasenators, 12, representatives 24, sessions biennial, in even-numbered years, meeting second Tuesday in Jan., hold 60 days, terms of senators and represenatives 2 years each. Good school system, school age 7-21. Legal interest rate 12 per cent., by contract any rate. Miles of railroad 950.

Population.—Census of 1890, 60,705.

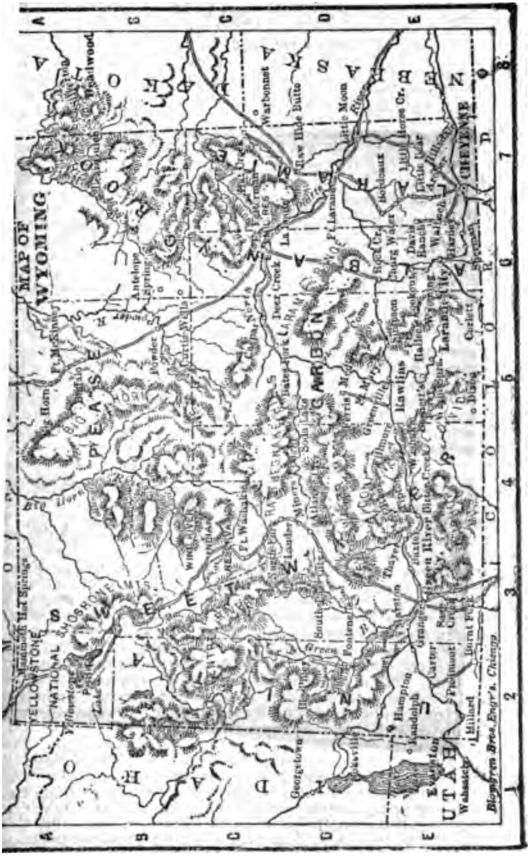
Length 350 miles, width 275 miles, area 97,890 sq. miles, 62,438,000 acres. Surface traversed by Rocky Mountains, forming the continental divide, and is high and mountainous, varying in elevation from 4,800 to 12,000 feet. At the N. W. is the Yellowstone National Park, 3,600 sq. miles in area, and one of the greatest natural wonders of the continent. It varies from 6,000 to over 12,000 feet in elevation, and its scenery is one vast panorama. Along the streams and in the valleys are tracts of arable lands which may be made to produce prolifically with irrigation. Mountains, covered with forests of considerable extent, contain precious and base metals in great deposits. Soil, where water can be had, is good; soil chiefly suited to grazing. Half the territory grazing land. Wheat, rye, oats and barley flourish, frost too frequent for corn. Water plentiful, game and fur-bearing animals numerous, iron ore abundant, mainly red hematite. Copper, lead, plumbago and petroleum found, gold in the Sweetwater country and near Laramie City, valuable deposits of soda in valley of the Sweetwater. Coal abundant and of good quality at Evanston, Carbon, Rock Springs and other points. Climate cold, severe in mountains, milder in valleys. Healthful, air pure, dry and bracing. Rainfall, 15 inches. Temperature averages, summer 66 deg., winter 18 deg., ranges from 31 deg. below to 80 deg. above. July warmest month, January coldest, latter averages 10 deg.

Chief Cities.—Cheyenne (capital), pop. 11,693. Laramie City, pop. 6,395.

Chief Industries.—Grazing, mining and agriculture, but little is done in manufacturing.

Salaries of Territorial Officers.

Governor	$2,600
Secretary	1,800
Treasurer	$800 and com.
Auditor	1,000
Superintendent of Public Inst	400
Librarian	400
Chief Justice	3,000
Two Associate Justices	3,000
Senators and Representatives	$4 a day and 20 cents mileage


MAP OF WYOMING
YELLOWSTONE NATIONAL PARK
Mammoth Hot Springs
Yellowstone Lake
SHOSHONE MTS.
WIND RIVER
Big Horn
Ft. McKinney
Powder
Antelope Spring
Deer Creek
Ft. Laramie
Raw Hide Butte
Warbonnet
Little Moon
Horse Cr.
Bordeaux
Chug Water
CHEYENNE
Laramie City
Carbon
Rawlins
Green River
Granger
Carter
Evanston
Hampton
Randolph
Georgetown
Wahsatch
Millard
Piedmont
Burnt Fork
South Pass
Lander
Ft. Washakie
Fontenelle
Thayer
Baxter
Fillmore
Greenville
Sherman
Hillsdale
Cooper
Dale
Carlett
Deadwood
IDAHO
UTAH
COLORADO
NEBRASKA
DAKOTA
MONTANA
A
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Blomgren Bros. Engr's, Chicago

DISTRICT OF COLUMBIA.

Named for Columbus. Fixed as seat of U. S. government 17
by act of Congress. Formed out of Washington Co., Md. (64
miles). Government removed to District 1800. Captured
British 1814, and capitol, executive mansion and congressio
library burned. Governed by Congress till 1871, when a legis
tive body of 33 (11 appointed by the president and 22 elected) w
created. Executive officers still appointed by president. Office
appointed are paid by the United States, those elected by t
District. Citizens of District have no vote for national officer
Schools superior. Legal interest 6 per cent, by contract 10, mo
forfeits entire interest. Population, 1890, 230,392. Miles ra
road, 20.66. Surface made up of flats and hills. Similar in
features and products to Southern Maryland. Cities.—Was
ington (capital U. S.), pop. 229,796, Georgetown, pop. 12,578.

THE WHITE HOUSE AT WASHINGTON, D. C.

The White House, at Washington, D. C. is 170 feet long by
feet wide. The largest apartment, known as the east room,
80 by 40 feet in dimension and 22 feet high. The adjoining bl
room, finished in blue and gold, is devoted to receptions, dip
matic and social. The green and red rooms, so called from th
finishing, are each 30 by 20 feet. The rooms on the second flo
are occupied by the executive office and the apartments of t
President's family.

THE WASHINGTON MONUMENT.

The corner-stone was laid by President Polk, July 4th, 18
and December 6, 1884, the cap-stone was set in position. T
foundations are 126½ feet square and 36 feet 8 inches deep. T
base of the monument is 55 feet 1½ inches square, and the wal
15 feet ¼ inch thick. At the 500 foot mark, where the pyramid
top begins, the shaft is 34 feet 5½ inches square and the walls
18 inches thick. The monument is made of blocks of marb
two feet thick, and it is said there are over 18,000 of them. T
height above the ground is 555 feet. The pyramidal top termi
ates in an aluminum tip, which is 9 inches high and weighs
ounces. The mean pressure of the monument is 5 tons p
square foot, and the total weight, foundation and all, is nearly 8
000 tons. The door at the base, facing the capitol, is 8 feet wi
and 16 feet high, and enters a room 25 feet square. An immen
iron framework supports the machinery of the elevator, whi
is hoisted with steel wire ropes two inches thick. At one side
gin the stairs, of which there are fifty flights, containing eight
steps each. Five hundred and twenty feet from the base th
are eight windows, 18x24 inches, two on each face. The area
the base of the pyramidal top is 1,187¼ feet, space enough fo
six-room house, each room to be 12x16 feet. The Cologne Cat
dral is 525 feet high; the pyramid of Cheops, 486; Strasburg Cat
dral, 474; St. Peter's, at Rome, 448; the capitol at Washington, 3
and Bunker Hill monument, 221 feet. The Washington mo
ment is the highest monument in the world; total cost, $1,500

Additional List Salaries of State Officers.

?or States not given in this list see Atlas Descriptive Matter.]

lrizona.—Governor $2,600, Secretary $1,800, Treasurer $1,000,
ditor $1,000, Superintendent of Public Instruction $2,000, Li-
rian $600, Chief Justice $3,000, Two Associate Justices $3,000,
ıators and Representatives $4 per day and 20 cents mileage,
ee District Judges $3,000, Collector of Internal Revenue $2,250,
o Deputy Collectors $1,600 to $1,700, Clerk $1,100, Surveyor
ıeral $2,500, Chief Clerk $2,400, Land Clerk $1,600, Land
yist $1,200, Spanish Translator $2,500.

alifornia.—Governor $6,000, Secretary of State $3,000,
asurer $3,000, Comptroller $3,000, Superintendent of Public
truction $3,000, Attorney General $3,000, Surveyor Gen. $3,000,
te Librarian $3,000, District Judge $5,000, Senators and Rep-
ntatives $8 per day, mileage 10c., and $25, Two Collectors
ernal Revenue $3,125 to $4,500, Collector of Customs, San
ncisco, $7,000, Pension Agent $4,000, Superintendent of
ıt $4,500, Assayer $3,000, Melter and Refiner $3,000.

leorgia.—Governor $3,000, Secretary of State $2,000, Treas-
r $2,000, Comptroller General $2,000, Attorney General $2,000,
nmissioner Agriculture $2,500, Chief Justice $2,500, Associate
tices $2,500, Senators and Representatives $4 a day and
eage, 3 District Judges $3,500, District Superintendent Rail-
r Service $2,500, Collector of Internal Revenue $2,500 to
25, 24 Deputy Collectors $300 to $1,700, Customs Surveyor
oo and fees.

ndiana.—Governor $5,000, Lieutenant Governor $8 a day,
retary of State $2,000, Treasurer 3,000, Auditor $1,500, Attor-
General $2,500, Superintendent of Public Instruction $2,500,
retary Board of Agriculture $1,200, Librarian $1,200, Five
lges $4,000, Senators and Representatives $6 a day and 20 cents
mile, District Judge $3,500, Pension Agent $4,000, Six Col-
ors Internal Revenue $2,375 to $4,500, Surveyor Customs $1,000
l fees.

owa.—Governor $3,000, Lieutenant Governor $1,100, Secretary
State $2,200, Treasurer $2,200, Attorney General $1,500 and $5
ay, Superintendent of Public Instruction $2,200, Three Rail-
y Commissioners $3,000, Librarian $1,500, Chief Justice $4,000
ır Associate Justices $4,000, Senators and Representatives $550
year, Two District Judges $3,500, Pension Agent $4,000, 4
lectors of Internal Revenue $2,500 to $4,500, Auditor $2,200.

Kentucky.—Governor $5,000, Secretary of State, $1,500, Treas-
r $2,400, Auditor $2,500, Attorney General $500 and fees, Reg-
r Land Office $2,400, Commissioner of Agriculture $2,000, In-
ance Commissioner $4,000, Three Railway Commissioners,
oo, Chief Justice $5,000, Three Associate Justices, $5,000,
ıators and Representatives $5 a day mileage 15 cents, District
lge $3,500, Pension Agent $4,000, Six Collectors Internal
venue $4,500, 60 Deputy Collectors $300 to $2,000.

ouisiana. — *Governor,* $4,000, Lieutenant Governor $8 per
Treasurer $2,000, Secretary of State $1,800, Auditor $2,500.

ney General $4,000, Chief Justice $6,500, Six Assc
$6,000, District Judge $4,000, Senators and Repres
per year, Pension Agent $4,000, Three Collectors of
enue $3,000 to $4,500, Collector of Customs, Boston,
Officer $5,000.

Michigan.—Governor $1,000, Lieutenant Gove
Secretary of State $800, Treasurer $1,000, Auditor G
Superintendent of Public Instruction $1,000, Adju
$1,000, Secretary Board of Agriculture $1,500, In
missioner $2,000, Railway Commissioner $2,500,
Commissioner $2,000, Chief Justice $4,000, Senator
sentatives $3 a day and 10c. per mile, 2 District J
Pension Agent $4,000, Four Cols. Int. Rev. $3,875 t

Missouri.—Governor $5,000, Secretary of State
urer $3,000, Auditor $3,000, Attorney General $3,
General $2,000 Superintendent of Public Schools
ister of Lands $3,000, Three Railroad Commissioner
Insurance Department $4,0 [illegible] Chief Justice $4,500,
Representatives, $5 a day [illegible] mileage and $30,
Judges $3,500, Five Collectors of Internal Reven
$4,500, Surveyor of Customs, St. Louis, $5,000.

New York.—Governor $10,000 and house, Lieuter
$5,000, Secretary of State $5,000, Treasurer $5,0
ler $6,000, Attorney General $5,000, Chief Justice
tors and Representatives $1,500, mileage 10 cents,
Judges $4,000, Postage Stamp Agent $2,500, Dep. S
Railway Service $2,500, 12 Collectors Internal Reve
$4,500, Collector Customs, New York, $12,000, S
Assay Office $4,500, Pension Agent $4,000.

Texas.—Governor $4,000, Lieutenant Governo
Secretary of Sate $2,000, Treasurer $2,500, Atto

An annular eclipse of the Sun, June 6. Visible to North America, as a partial eclipse, north and West of a line drawn from the mouth of the St. Lawrence river, through Ottawa, Detroit, St. Louis, Dallas (Texas), and Sinaloa (Mexico); to Europe, Siberia and the Arctic ocean. Being annular in Siberia and adjacent Arctic ocean. Occurring as follows:

	Standard.	Begins.			Ends.			Digits Eclipsed.
		D.	H.	M.	D.	H.	M.	
Chicago	Central	6	9	8 M.	6	9	46 M.	Small
St. Louis	Central	6	9	8 M.	6	9	24 M.	Slight
Omaha	Central	6	8	41 M.	6	9	53 M.	2
St. Paul	Central	6	8	46 M.	6	10	11 M.	2
Bismarck	Mountain	6	7	36 M.	6	9	18 M.	3
Denver	Mountain	6	7	25 M.	6	8	50 M.	2
Salt Lake City	Mountain	6	7	19 M.	6	8	58 M.	3
Santa Fé	Mountain	6	7	26 M.	6	8	34 M.	2

III. A total eclipse of the Moon, November 15. Visible more or less to Europe, Asia, Africa, North and South America, Atlantic and eastern Pacific oceans. Occurring as follows:

TIMES OF PHASES.

Standard.	Eastern Time.			Central Time.			Mountain Time.			Pacific Time.		
	D.	H.	M.	D.	H.	M.	D.	H.	M.	D.	H.	M.
Moon enters penumbra	15	4	36 A.	15	3	36 A.	15	2	36 A.	15	1	36 A.
Moon enters shadow	15	5	35 A.	15	4	35 A.	15	3	35 A.	15	2	35 A.
Total eclipse begins	15	6	37 A.	15	5	37 A.	15	4	37 A.	15	3	37 A.
Middle of eclipse	15	7	19 A.	15	6	19 A.	15	5	19 A.	15	4	19 A.
Total eclipse ends	15	8	1 A.	15	7	1 A.	15	6	1 A.	15	5	1 A.
Moon leaves shadow	15	9	3 A.	15	8	3 A.	15	7	3 A.	15	6	3 A.
Moon leaves penumbra	15	10	2 A.	15	9	2 A.	15	8	2 A.	15	7	2 A.

Astronomical Phenomena for 1891.—Continued.

First contact of shadow 55 degrees from north point of the Moon's limb toward the east.

Magnitude of eclipse equals 1,393 (moon's diameter equals 1).

IV. A partial eclipse of the sun, December 1. Invisible. Visible around the south pole and to the southern extremity of South America.

A transit of Mercury, May 9. Visible more or less to North America, west of Maine and Quebec, Europe, Asia, eastern Africa, Australia, and Pacific ocean.

Morning and Evening Stars.

Mercury will be Morning Star about February 6, June 5, and September 28; and Evening Star about April 18, August 16, and December 11.

Venus will be Morning Star till September 18; and Evening Star the rest of the year.

Jupiter will be Evening Star till February 13; then Morning Star till September 5, and Evening Star again the rest of the year.

Church Days and Cycles of Time.

Circumcision	Jan. 1	Good Friday	Mar. 27	Michaelmas Day	Sept. 29
Epiphany	Jan. 6	Easter Sunday	Mar. 29	Hebrew New Year (5652)	Oct. 3
Septuagesima	Jan. 25	Low Sunday	April 5	Advent Sunday	Nov. 29
Candlemas	Feb. 2	First day of Pesach	April 23	Dominical Letter	D
Shrove Sunday	Feb. 8	Rogation Sunday	May 3	Epact	20
Ash Wednesday	Feb. 11	Ascension Day	May 7	Golden Number	11
First Sunday in Lent	Feb. 15	Whit Sunday	May 17	Solar Cycle	24
Purim	Mar. 24	Trinity Sunday	May 24	Roman Indiction	4
St. Patrick	Mar. 17	Corpus Christi	May 28	Julian Period	6604
Palm Sunday	Mar. 22	Mohammedan New Y'r	Aug. 7		

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